The Unesco Courier

A window open on the world

The Huichol

A pre-Columbian culture in Mexico today

Photo © René Roland, Paris

TREASURES OF WORLD ART

139

Greece

Ivory trio

In the latter part of the second millennium BC, the Greek city of Mycenae became one of the chief centres of the Aegean world. Beginning with the celebrated discoveries of the German archaeologist Heinrich Schliemann in the 1870s, excavations at Mycenae have brought to light vast quantities of jewellery, gold masks and other precious objects including elaborate ivory artefacts such as mirror handles and combs. An outstanding example of Mycenaean craftsmanship in ivory, this group (7.6 cm. high) depicting two goddesses and an infant god dates from the 15th century BC. It is now preserved in the National Museum at Athens.

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Photo © P. Lloyd Baker, Oregon, U.S.A.

Cover

Scattered among the deep canyons and high plateaux of the Mexican Sierra Madre, the Huichol Indians have maintained, virtually intact, an ancient culture going back to pre-Hispanic times. This culture has given rise to a highly original art of which "yarn painting" is an outstanding example. In these paintings, with their brilliant colours and pure lines, Huichol artists bring vividly to life the sacred world of their ancestors and their gods. Our cover is a reproduction of a yarn painting by the Huichol artist Juan Ríos Martínez, entitled *Revelation of the Blue Deer*. This issue of the *Unesco Courier* also examines other aspects of Latin American culture in articles devoted to the deciphering of Mayan hieroglyphics and the bewitched reality of Haitian art.

Are we heating up our planet?

A new global programme to examine man's impact on the climate

by William W. Kellogg

IT is generally recognized that "the climate", which can be loosely defined as the kind of weather we have learned to expect next year, is actually never exactly the same from one year to the next, or from one decade to the next. There is a very human tendency to count on favourable weather for growing crops, for planning vacations, for choosing where to build houses, and so forth, and we are delighted when the weather is better than usual and dismayed when it is worse. Yet the facts are quite clear: the climate fluctuates from year to year and it changes over periods of decades.

There are plenty of sobering examples of such fluctuations in the climate that are still fresh in our memory. Western Europe and the eastern United States have experienced some cold winters that strained fuel supplies and temporarily closed factories; the Sahelian region of North Africa is still recovering from a severe drought that lasted from about 1969 to 1974; the western part of the Soviet Union suffered a cold, dry winter and a hot, dry summer in 1972 that resulted in a severe reduction in its grain crop. Yet these and other anomalous conditions were not unprecedented. They had occurred before, and similarly unusual weather will occur again in various parts of the world.

These recent events serve as reminders of the fact that the climate of our planet is the result of an ever-changing and delicate

L'Avenir des Statues, by René Magritte
© Edward James Foundation, United Kingdom

balance, a balance determined by the actions of the sun, the atmosphere, the oceans, the land, the ice and snow of the polar regions, and all living things —including mankind. We can contemplate conditions in the not too distant past (some 15,000 to 20,000 years ago) when North America and Western Europe were largely covered by great masses of ice and marvel that the climatic balance is as stable as it has been over the last several centuries.

There are a number of reasons why we can no longer be complacent about our restless climate, as we have tended to be in the past.

First of all, living as we do on a planet with limited resources and fully expecting a continued increase in the human population and average standard of living, we do not have the food and other reserves that existed in the past. Thus, a large climate-induced failure of crops or of fisheries in one part of the world is felt worldwide.

Secondly, as we plan new developments of highways, irrigation systems, industry, energy generating plants, and large-scale agricultural production in both the industrialized and the developing countries it is increasingly important to take the expected fluctuations and changes of climate into account.

Thirdly, we have learned enough about the global system that determines our climate to realize that natural changes of climate can occur on all time scales, and furthermore that the activities of mankind can have a very appreciable influence on climate in the foreseeable future.

Finally, new tools have been acquired for advancing our knowledge of the climate system and the impacts of climate on society, including powerful techniques for observing the earth from space, and for collecting and analysing climate-related data with computers. These technological advances have been accompanied by equally impressive advances in theoretical understanding of the climate system itself and, to a lesser extent, the response of social structures to climate variations and change.

These considerations of a global or universal nature all suggest that the problems connected with climate must be attacked on a worldwide, international scale. For that purpose, the United Nations and its various agencies, with the World Meteorological Organization taking the lead, together with the International Council of Scientific Unions, are now working together to institute a World Climate Programme.

Such a programme must go beyond the realm of conventional climatology, since the study of the climate system includes virtually all branches of the earth sciences and ecology as well; furthermore, a major thrust of such a programme must be to understand the impacts of climate on ▸

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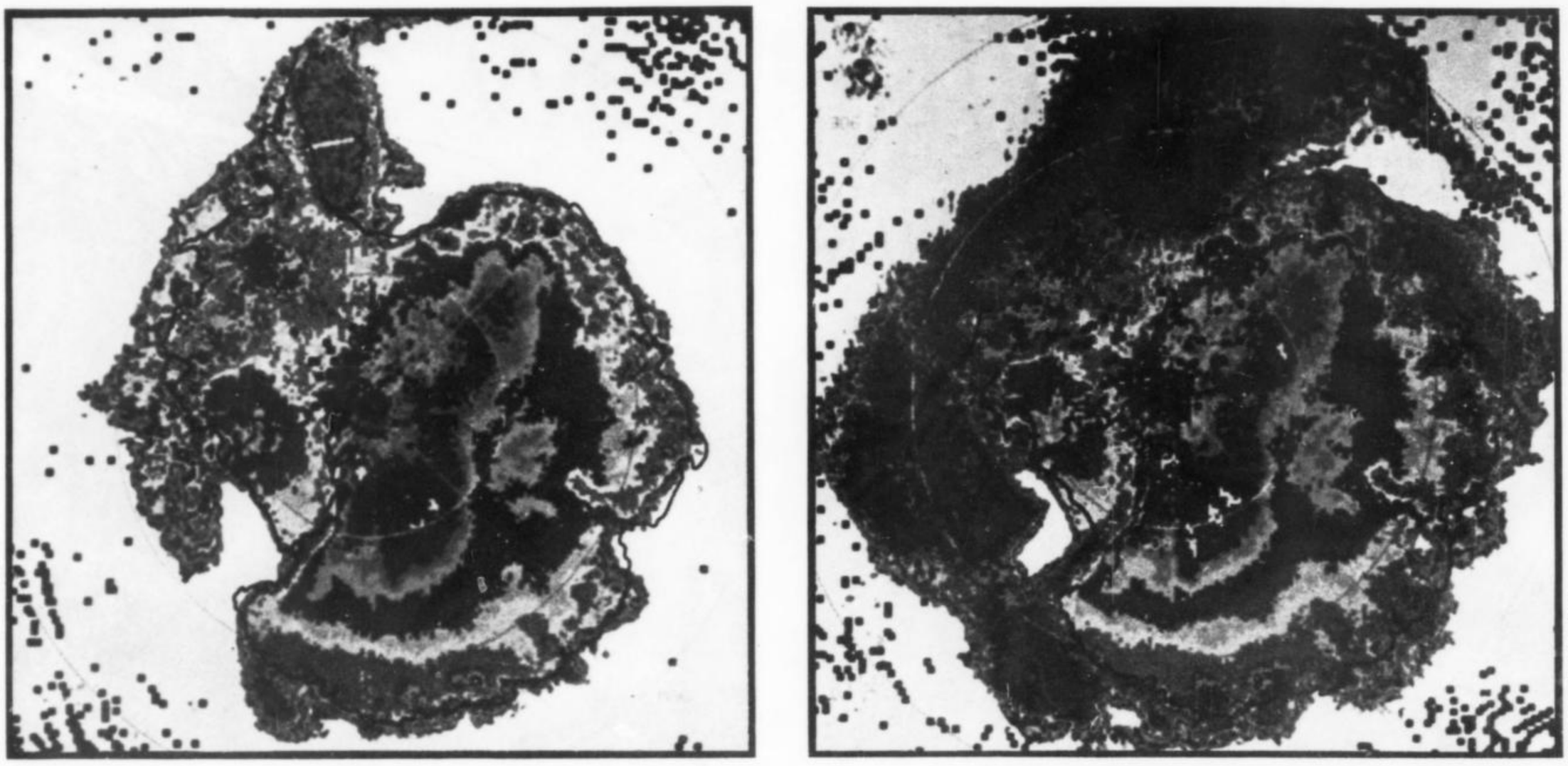
Photo © Flammarion, Paris

Photo © Le Roy Ladurie, 1966

Climatic changes can have an important impact on human societies. The "Little Ice Age" (1500-1700), for example, eliminated the vineyards of England and turned the English into a nation of beer-drinkers. It also saw a dramatic advance of the Alpine glaciers. The 20th century has been marked by a worldwide warming and a retreat of the Alpine glaciers. The engraving, at top of page, of the Argentière glacier, in France, was made in about 1860; the lower photo, taken in 1966, shows the extent of the glacier's retreat over a period of a little more than a century. Today, about threequarters of the world's freshwater is stored in ice caps and glaciers. If all existing ice were to melt, it would cause a rise in world sea level of some ninety metres.



Photos © I.P.S., Paris

Two views of Antarctica taken from the weather satellite Nimbus-5 show vast changes in the ice cap during the polar summer. The picture on the left was taken on 15 December 1972, the one on the right on 30 January 1973. Both have a standard atlas overlay (black line) showing the outline of the land surface of the continent. White or light grey areas are open water. Black spots are gaps in the data received from the spacecraft.

human activities and institutions, and to assist decision-makers in planning and co-ordinating climate-sensitive activities so that these are less vulnerable to climate change and variations.

As a preliminary step the first World Climate Conference, an interdisciplinary conference of experts on climate and mankind, is being organized by the World Meteorological Organization (WMO) with the co-operation of Unesco and other interested United Nations bodies, the International Council of Scientific Unions (ICSU) and the International Institute for Applied Systems Analysis (IIASA). This Conference is being held in Geneva from 12 to 23 February 1979.

The purpose of the Conference is to review what we know about the system that determines climate, and then to explore the many impacts of climate variability and change on such human activities as agriculture, water resources, provision of energy, forestry and fisheries, and finally to trace these impacts back to their effects on the basic social and economic structures of society.

The conclusions of the Conference will be taken into consideration when the WMO Congress meets in May 1979 to consider the adoption of the World Climate Programme. The draft of the Programme has been in preparation for several years and during 1978 a number of meetings of experts were convened to work out the plans in some detail. As at present envisaged the Programme will consist of four sections or sub-programmes each dealing with an important aspect of the subject: climate data, climate application, climate impact studies and climate research.

Conventional climate data includes data describing the record of the changing weather, such as temperature, rainfall or snowfall, wind, pressure, humidity and cloudiness plus data related to climate such as solar radiation, sea surface temperature and extent of sea ice.

Meteorological data come from more than 9,000 "synoptic" surface weather observing stations, about 4,000 of which report regularly eight times daily as stations of the global synoptic network; and about 900 of these network stations also make upper air observations once or twice daily. In addition to the land-based stations some 7,000 merchant ships make surface observations, and about 1,500 commercial aircraft reports are made daily. The data in the network are exchanged in a matter of hours by the Global Telecommunications Systems organized by WMO's World Weather Watch Programme. Such data are further processed and archived at a number of Regional Meteorological Centres and the three World Data Centres for Meteorology (in Washington, Moscow and Melbourne).

The immediate purpose of all these observations is to make weather forecasts, and usually not enough attention has been paid to the data needed by agriculturalists, hydrologists, and other users of climatological data, and to the needs of scientists studying such matters as ocean circulations or the conditions in polar regions. Some of these non-synoptic data are currently gathered by networks outside of the direct responsibility of the meteorological services.

Other kinds of climate-related data that are needed for research on past climates include, for example, tree ring records, distributions of various kinds of pollens in lake sediments and the histories of glaciers.

The purpose of this part of the World Climate Programme, therefore, is to determine where the data exist and to make them more widely available when needed.

The range of data needed for various climate applications and research is very great indeed. The developed countries have in general made some use of climate data in planning and managing major projects such as water resource developments, new electric generating plants, highways and urban expansion and the statistical techniques for this purpose are fairly well established. This part of the World Climate Programme will be especially concerned with helping the developing countries to apply knowledge of climate at a time when many of them are contemplating expansions of their industrial and agricultural bases.

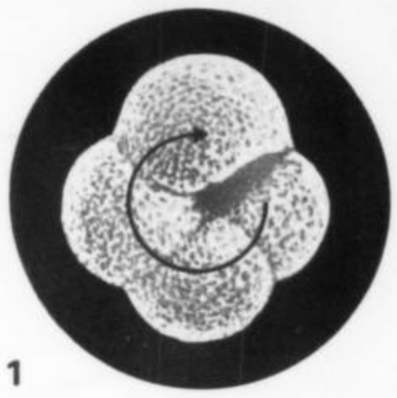
In many of the developing countries

climate is a critical factor which must be taken carefully into consideration in any planning they do. There are a number of ways in which an international organization such as the WMO can assist developing nations to apply the knowledge of climate in their planning and management of agricultural, industrial and social developments. Some countries have fairly advanced national climate applications programmes and the WMO can arrange for a transfer of the techniques they employ to other countries that wish to make use of them. It can also advise on the installation of data processing facilities and arrange for the training of technicians.

Climate variability and climate change can have a profound impact on society and different socio-economic structures may be affected very differently, for example, by a drought or a severe cold spell or a flood. Some structures are clearly more vulnerable than others to the vagaries of climate, though the reasons for this large range of sensitivity are far from clear. To understand and then predict the response of a social and economic system to a certain change or fluctuation in climate is the purpose of this part of the World Climate Programme.

While listed fourth among the sub-programmes of the World Climate Programme, climate research, by which we seek to improve our knowledge of the global system that determines climate everywhere, could well be considered the key component.

This part of the Programme will emphasize the development of various kinds of theoretical and empirical models of the climate system. As these models continue to ▶



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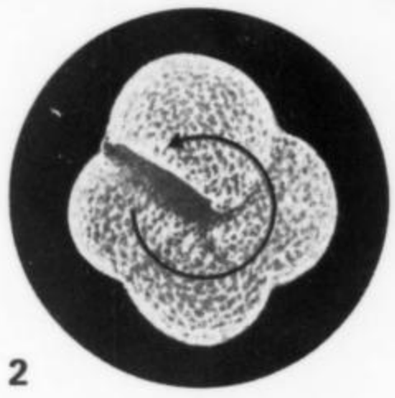

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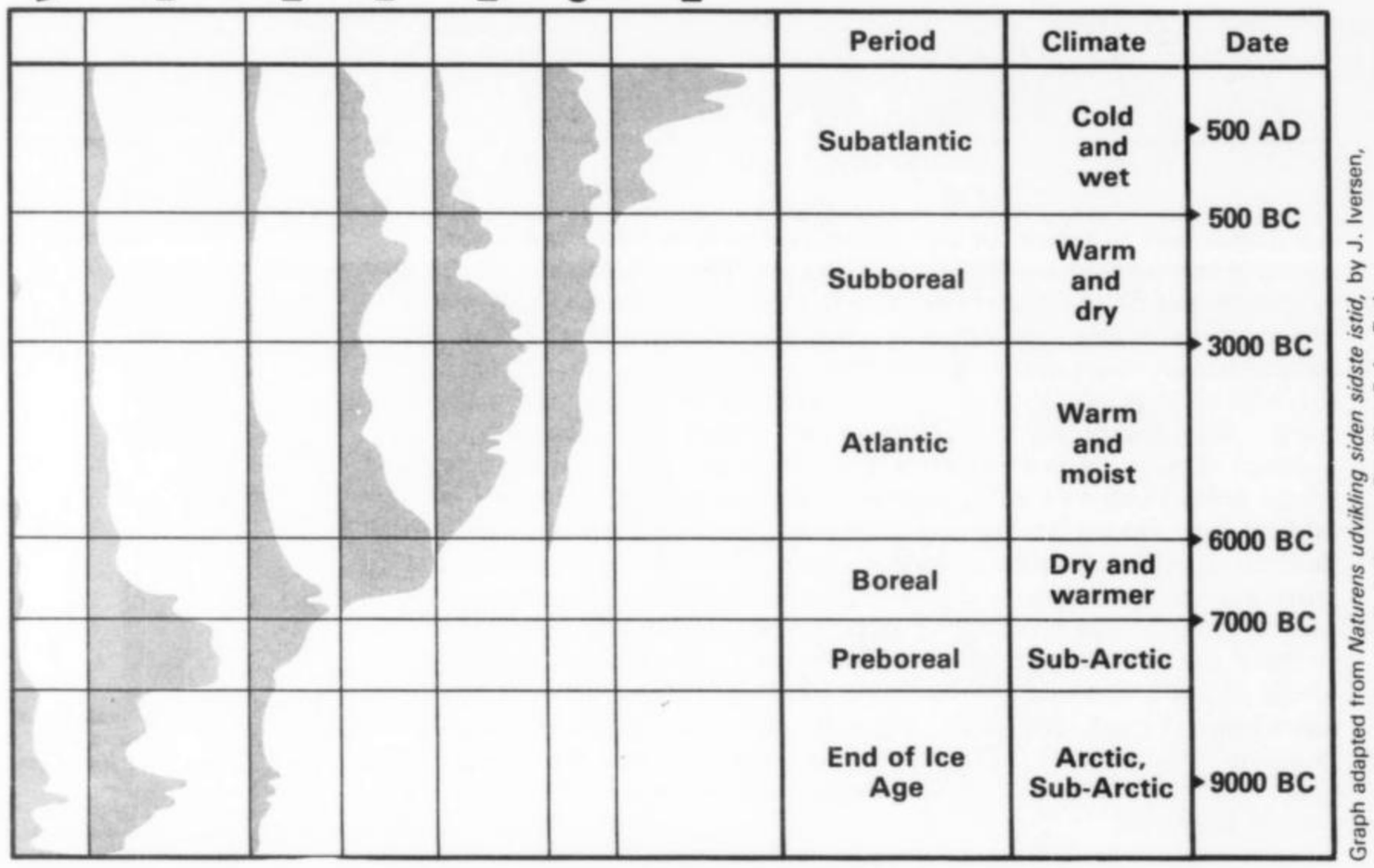
Fossils of even the minutest sea creatures can provide clues as to sea temperatures of the distant past. The *Neogloboquadrina pachyderma,* no bigger than the head of a pin despite its impressive name, forms a shell which spirals in one direction (drawing 1) in water below 7° Centigrade and in the opposite direction (drawing 2) in warmer conditions. Water temperatures above 10° Centigrade are indicated by the presence of another sea creature (drawing 3), the *Globorotalia menardii.*

Drawings © Jean Le Marié, Paris

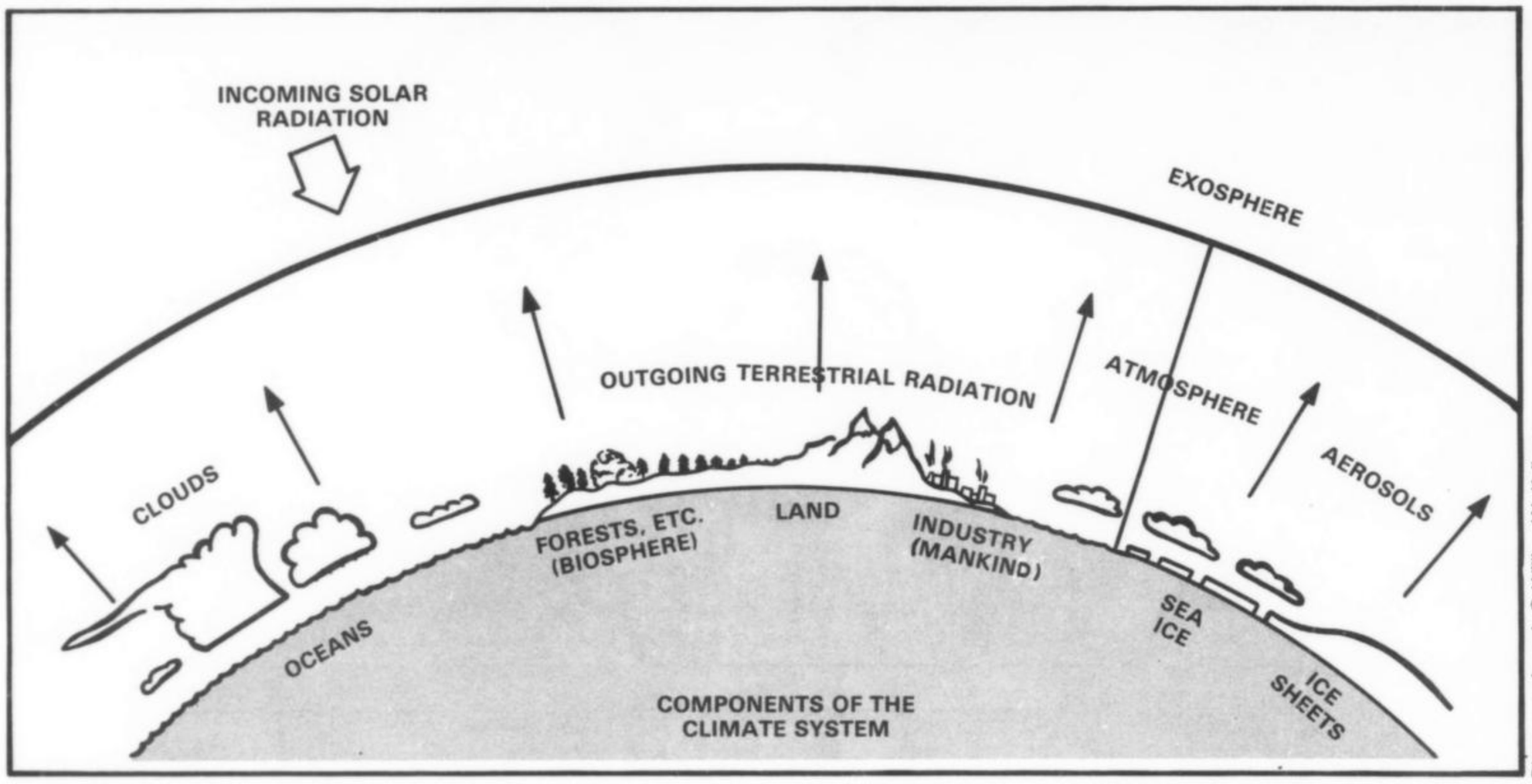


Graph adapted from *Naturens udvikling siden sidste istid,* by J. Iversen, in Danmarks Natur Vol. 1 © Grange Batelière S.A., Paris

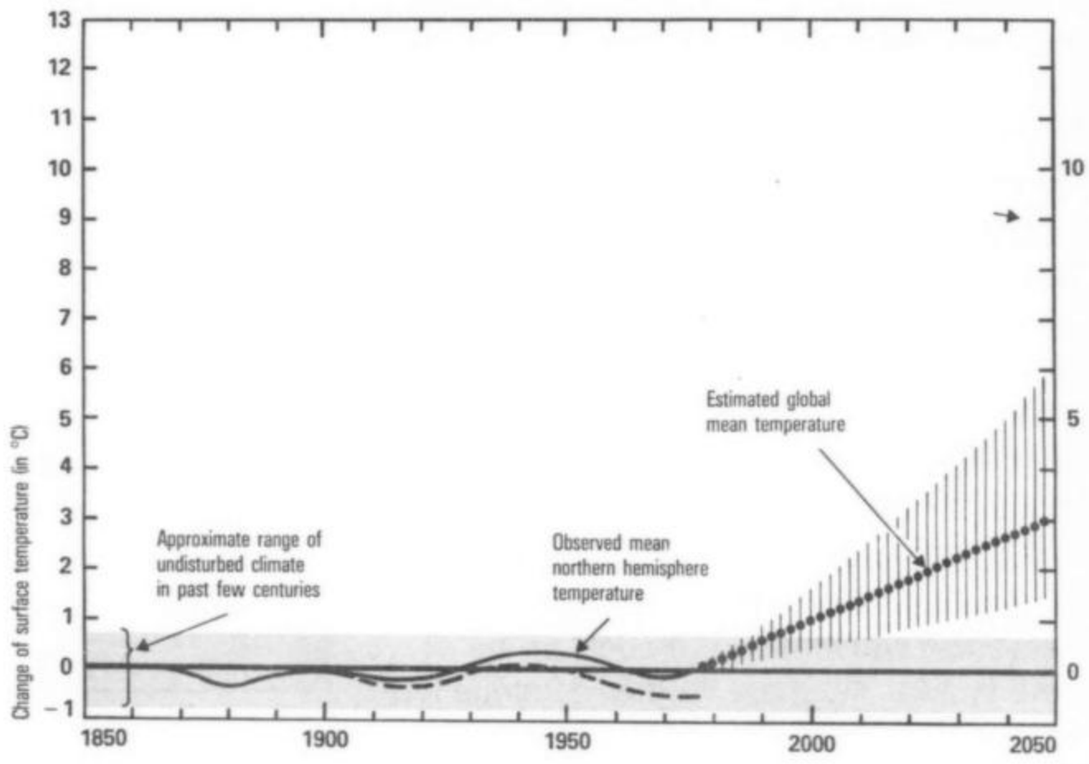
Above, pollen record showing climatic conditions in eastern Denmark from 9000 BC to 500 AD. Fossil pollen found in peat and clay deposits show how the vegetation cover has evolved throughout the past. Fossil pollen provide an excellent indicator of climatic variations since they are virtually identical to pollen of living plant life and can be traced back over millions of years.

Photo Corson © Fotogram, Paris

Right, cross-section of a hardwood tree showing annual ring growth. In temperate regions most trees grow an additional layer of wood every year, and when a tree is cut down these layers are seen as concentric rings. Not only do these rings indicate the age of the tree, their width also provides precious information on the climatic conditions of the past. Narrow rings may, for example, indicate a period of low rainfall or drought. Wider rings point to favourable climatic conditions for the species of tree in question.



An important function of our atmosphere is to filter radiation coming towards the earth from the sun. The atmospheric shield admits most of the short-wave radiation to the earth, but, like a greenhouse, traps some of the radiation from the earth that would otherwise escape to space (see diagram above). This has the effect of slowing down the dissipation of energy from the earth, thus stabilizing the temperature range at the earth's surface. Today, however, man is burning such large quantities of fossil fuels such as coal, petroleum and natural gas that he is adding huge extra amounts of carbon dioxide to the atmosphere. Carbon dioxide absorbs radiation from the earth and prevents it from escaping to space, so, in effect, man is "making the glass of the greenhouse thicker". Right, graph shows the average surface temperature in the northern hemisphere since 1860. The lower dashed line shows what the average temperature would have been if man had added no extra carbon dioxide to the "natural" atmosphere. The dotted line right shows the dramatic rise in average world temperature we can expect if present trends continue.



improve they will simulate the behaviour of the real system more and more closely. Through them it will be possible to learn how well climate variability (on a seasonal or yearly time-scale) can be predicted.

Even more important, however, is the fact that these models will enable us to judge more accurately the critical question of how sensitive the climate system is to the large-scale changes induced by the activities of mankind. Although for a long time to come we may not be able to make good predictions of the natural variations of climate from year to year, we can already simulate the behaviour of the climate system well enough to be convinced that our human activities can produce a climate change on a global scale if we continue on our present course.

Of all the major world problems that can be foreseen in the decades ahead, the prospect of mankind's warming the earth looms as one of the most pressing and unprecedented. The addition of carbon dioxide to the atmosphere by the extensive burning of fossil fuel (coal, petroleum, natural gas) is the largest single influence and may produce a significant global warming by the end of this century. The warming is due to the fact that carbon dioxide is a long-lasting and stable atmospheric trace gas and it absorbs infra-red radiation from the surface that would otherwise escape to space—a process sometimes called "the greenhouse effect". We may also add more of this gas as we cut down the tropical forests of the world, since the decay of wood also produces carbon dioxide.

Carbon dioxide remains in the atmosphere for a very long time, the main sink for it in the long run being the oceans. In fact, it is estimated by oceanographers that it would take between 1,000 and 1,500 years for the oceans to absorb one half of the carbon dioxide we have already added to the atmosphere. For all practical purposes, the steady increase in the concentration of this trace gas that has already occurred (about fifteen per cent since the beginning of the century) and will probably continue until the concentration has doubled in the middle of the next century is irreversible.

This prediction of a global warming is still based on some rather uncertain premises, not the least of which is the prediction of mankind's own future behaviour where energy production is concerned. Much has been written about this subject and it is fair to say that there is now a growing consensus in the scientific community that carbon dioxide will indeed continue to increase if mankind continues on its present course. A current "best guess" is that by the end of this century the earth will on average be warmer than at any time in the past 1,000 years or more, and with the temperature still rising.

What is not so clear are the implications of this climate change to mankind. Certainly the large scale patterns of the atmospheric and oceanic circulations would change, and this would cause regional changes of both temperature and precipitation that are larger than the average. Some places would be drier than now, some wetter; and while the average surface temperature would rise, some regions might even experience a cooling—for a while, at least.

The polar regions are expected to warm more than the tropics, and this would cause changes in the extent of polar snow

and ice and, eventually, some changes in the volumes of the great ice sheets of Greenland and Antarctica, with a corresponding change in sea level—though glaciologists generally believe these last readjustments will be very slow on the time-scale of human affairs.

Of more fundamental importance to people everywhere are the readjustments that will have to be made as temperature, rainfall, snowfall, and wind patterns gradually change. During this period of continual readjustment of the climate system there may also be larger year to year fluctuations. Some regions and the people there, depending on what they do for a living, will become better off as a result of the shifts of climate, while others will be hurt. In any case the readjustments of agricultural practices and patterns of living will in some cases be drastic, and it seems to be an economic verity that all large-scale readjustments are expensive for the community as a whole.

If we think of the future course of climate change and the response of mankind to it as a kind of scenario, then we are already well into the First Act of the play. What will happen in the subsequent drama as it unfolds and becomes history is still a matter for speculation. Will mankind try to go about its "business as usual", or will something be done to reduce the burning of fossil fuels and the deforestation of the tropics? Will we be wise enough, in any case, to foresee the future course of the climate change and plan the responses of nations in the light of this knowledge?

No one can say just what will happen, of course, but the World Climate Conference and the World Climate Programme seem to be vital first moves in the right direction.

■ **William W. Kellogg**

Photo Alain Nogues © Sygma, Paris

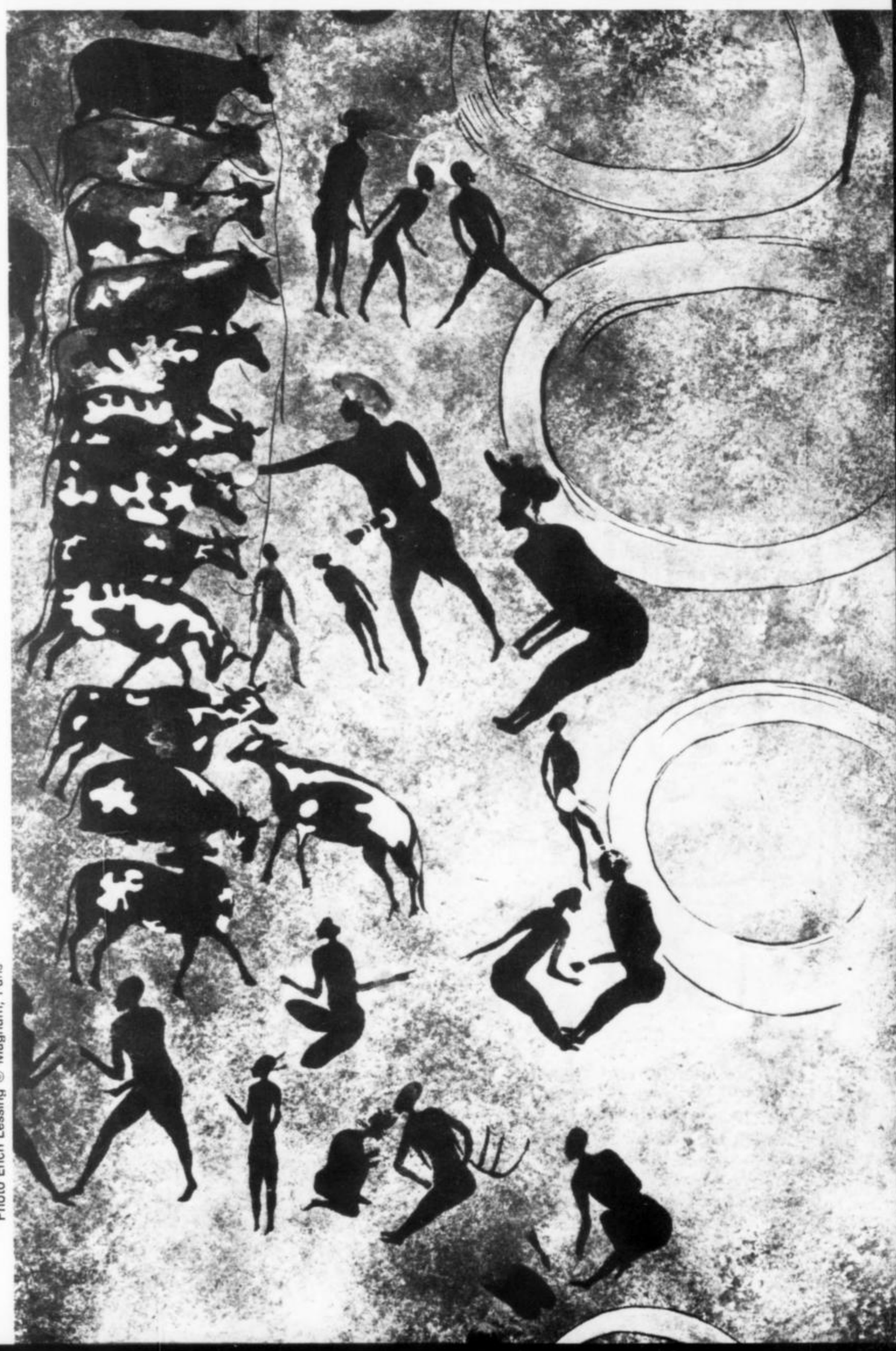


Photo Erich Lessing © Magnum, Paris

The effects of man's activities on the climate are particularly evident in the Sahel, the belt of semi-arid land stretching across Africa from Mauritania and Senegal in the west to Chad and the borders of the Sudan, which for centuries has been the traditional grazing land of nomadic herdsmen. Top right, over-grazing and deforestation have turned thousands of square kilometres of former pastureland into desert. Right, prehistoric rock painting at Tassili-n-Ajjer, Algeria, central Sahara. The large rings are thought to represent the herdsmen's huts.

Photo Corson © Fotogram, Paris

Stucco carving from a chronological inscription at the Forgotten Temple at Palenque. The face, left is that of the divinity of the figure three and the medallion with the carving of a dog's head represents the day *OC*. The full inscription means the day 3 *OC* of the ritual calendar of 260 days. The carving dates from 600-900 AD.

The vital statistics of the Mayan language

by Vladimir A. Kuzmishchev

THE colossal pyramid-temples that dominate the ancient cities of Chichen-Itza, Copan and Tikal are tangible evidence of the skill and inventiveness achieved by the Mayas, a people whose civilization flourished in Middle America during the first millennium AD. Yet these majestic ruins, imposing as they are, can tell us less about Mayan civilization than the columns of multi-coloured characters and tiny symbolic drawings of the Mayan fig-bark manuscripts that for so long defied the attempts of experts throughout the world to decipher them.

Although attempts had been made over the centuries to unravel the mysteries of a number of unknown scripts, it was only relatively recently, about two hundred years ago, that deciphering was placed on a proper scientific basis. One by one the problems were solved ; Egyptian hieroglyphics and the Sumerian cuneiform script yielded up their secrets, and it became an accepted principle that any unknown script, however unusual, could be read, even if, as in the case of the cuneiform script, the language in which it was written had been lost.

There remained, however, the enigma of the Mayan codices. For over a hundred years scholars the world over had pored over them to no avail, finally concluding that the codices could never be read since they consisted of pictographs, or "sign-writing", which could be interpreted but not read.

This was how things stood at the beginning of the 1950s, when Yuri Knorozov, a young Leningrad scholar working on problems of comparative and historical language studies and mathematical linguistics, began to take an interest in the Mayan codices.

As a rule, unknown scripts have been deciphered with the aid of a "key" in which the same text is recorded in two languages, one of which is known. The French scholar Jean-François Champollion used the Rosetta Stone in this way to solve the riddle of Egyptian hieroglyphics. The task of deciphering is also made easier by a knowledge of history, of events running parallel in different countries and of contacts between countries.

Information of this kind, however, was totally lacking about pre-Columbian America. Nor could a single bilingual text be found. New methods of deciphering the codices had to be employed.

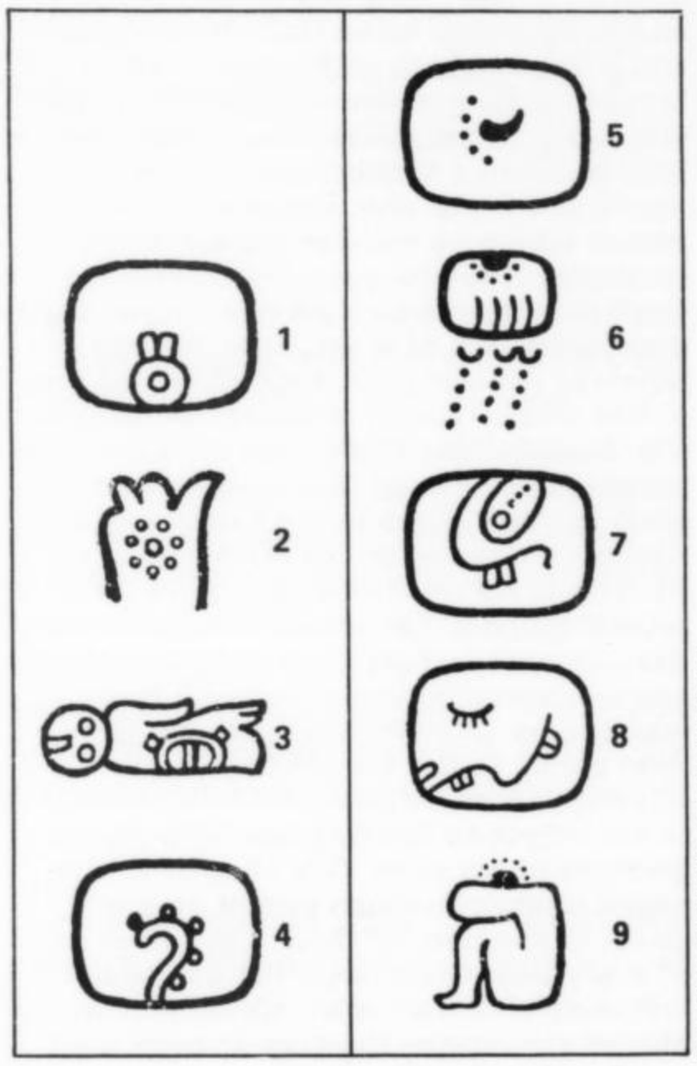
Only three codices were known at the time: the Dresden, Madrid and Paris codices, thus named after the cities in whose libraries they were conserved. After studying all the available written material about the ancient Mayas and their codices, Yuri Knorozov was amazed to find enormous gaps in the research undertaken.

Knorozov began with a very elementary assumption—if the codices were indeed "written" texts, the system of writing could be determined by a comparison of its structure with that of various other known ▶

VLADIMIR A. KUZMISHCHEV, *Soviet specialist on the culture of Latin America, heads the cultural section of the Latin American Institute of the USSR Academy of Sciences. He is the author of many articles on the ancient Mayas and his book* The Mystery of the Mayan Priests *has been translated into Bulgarian, Hungarian, Latvian, Lithuanian and Estonian. He is vice-president of the Soviet Association of Friendship and Cultural Co-operation with Latin American Countries.*

Photo © Bibliothèque Nationale, Paris

Right, extract from the Paris codex. The central figure, the god of rain, is seen holding the head of the god of fire. He is wearing a sash decorated with shells and the signs of the wind. He stands facing another barely visible god seated on a throne and holding a sceptre. A bird hovers above his head. A tripod between the two gods holds offerings of food.



Drawings © Yuri Knorozov, Leningrad

Examples of Mayan hieroglyphs and their meaning: (1) Sprouting seed; (2) Corn-cob; (3) Ripening (depicts the ripening of maize); (4) Talking; (5) Road (foot-print); (6) To pour; (7) (two meanings) Store of rainwater or the moon; (8) Death (eyes closed); (9) A dead person in the foetal position.

writing systems. But what was to be the basis of comparison if the meaning and function of the Mayan characters remained unknown?

The answer proved simple. Knorozov gave each sign a number and this enabled him to determine the total number of signs, their repetition frequency and other characteristics which, when compared with the indicators of other known systems, revealed the structure of ancient Mayan writing.

In the three codices there proved to be only about three hundred signs ; if the Mayan manuscripts had been full of pictographic writing there would have been several thousand. Pictography, therefore, was ruled out.

The number of sounds in any language usually averages thirty to forty, which corresponds approximately to the number of letters in the alphabet. So this was not a simple alphabetic system.

In the so-called syllabic systems (the Japanese *katakana* and *hiragana,* the Indian *devanagari,* or the ancient Cypriot script) the number of syllables does not exceed one hundred to one hundred and fifty, so this did not apply.

In morpheme writing, where the sign corresponds to the root of the word or to a grammatical particle, one thousand to one thousand five hundred morphemes are essential. So this too was eliminated.

There remained only the last of the known systems—hieroglyphic writing, a mixed system in which some of the signs stand for morphemes and others represent sounds and syllables. How did the number of signs compare in this case? It coincided!

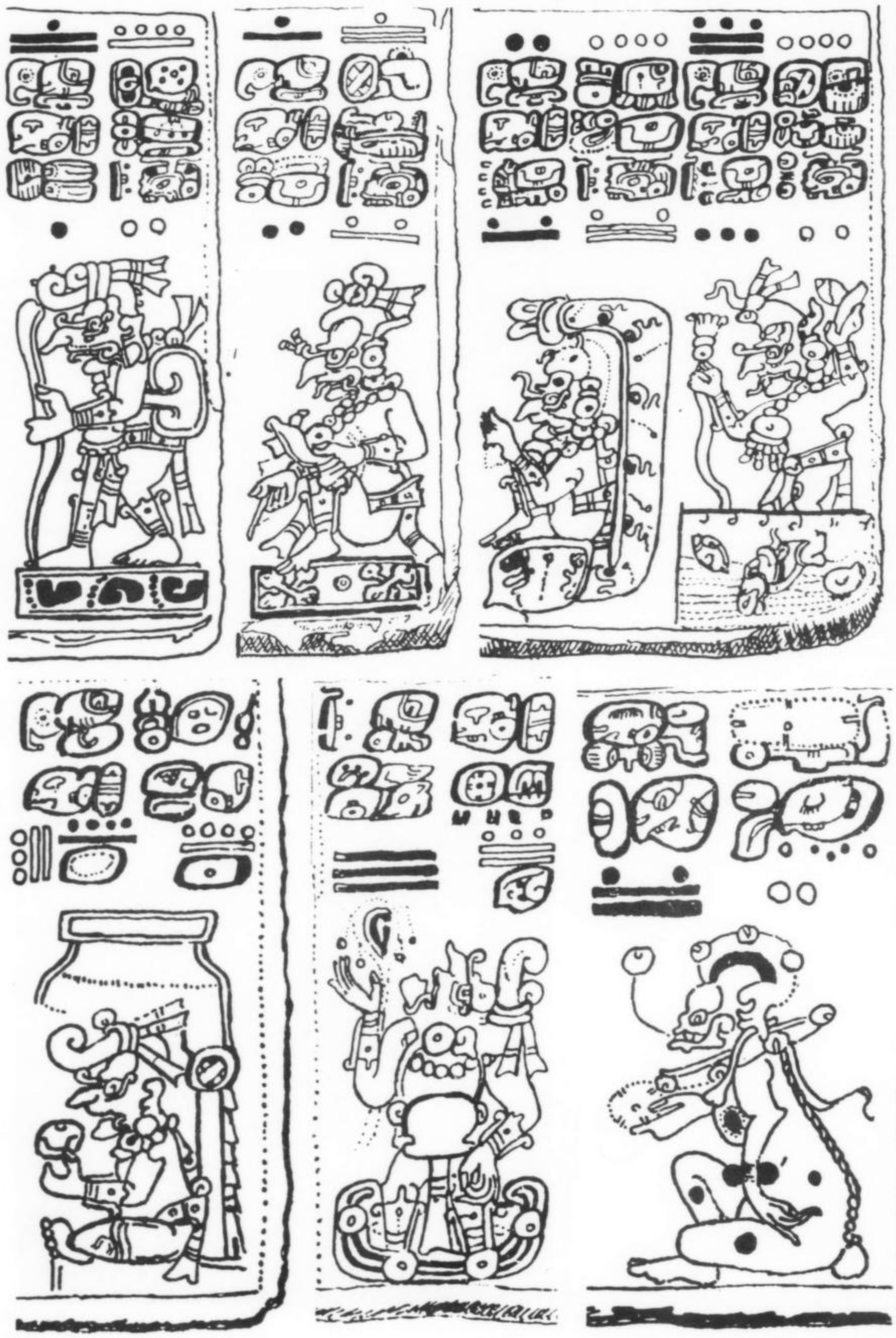
Thus, using the precision tool of figures, Knorozov confirmed a hypothesis that had first been put forward by the French orientalist Léon de Rosny as early as 1881. The Mayas used a hieroglyphic script which could, therefore, be read.

This was but a beginning, it remained to discover the precise meaning of each of the three hundred signs, how they were pronounced (if, indeed, they were pronounced at all) and in what language they were written.

This called for another "simple" discovery and a brilliant piece of guesswork which came to Knorozov as he was reading and analysing the "Landa alphabet" in a famous manuscript dating from 1566, the *Relación de las cosas de Yucatan* (An

Down-to-earth god

Before the Spanish conquest all Mayan priests had manuscripts which served as manuals and there were libraries in all the towns; but in the mid-sixteenth century, the Inquisition burned these "pagan" manuscripts. Today only four Mayan manuscripts are extant—the Dresden codex, the Paris codex and the Madrid codex, all named after the cities in which they are now preserved, and the Grolier codex, which is in a private collection in New York. The extract from the Dresden codex, right, tells, in text and pictures, how Kashish the god of wind and rain sets out (first panel), like a peasant, to plant maize before the coming of the rains. He carries an implement to make holes in the ground and a bag of seeds on his back. The footprints beneath his feet symbolize the long walk to the maize fields. When this task is finished Kashish goes (second panel) to a burial site, indicated by buried bones, where he invokes the aid of the ancestors. Then he goes (third panel) to fetch lime from a lime pit (the Mayas kept their maize in a lime solution). Having obtained enough lime, Kashish wades into a river (fourth panel) to collect water lilies and mussels. The text above the first panel reads: "Eleven [days before] the ninth [period]. Goes to the field [the god] Kashish before he leaves for the journey [?]. This is his task. One [day before] the second [period]." In a later version of the Dresden manuscript, bottom right, the god's peasant-like activities have been replaced by an elaborate ritual. He goes (first panel) to the temple to collect offerings. Then he goes to a lake (second panel) where he invokes rain with magic gestures of his arms. One chapter of the codex treats of women and of days of good- or ill-omen for them. On twelve out of every twenty-six days, the god of death "received a flower", *c'an nic-te,* (which in Mayan also means the consummation of marriage) and on those days, unless forewarned by a priest, a woman could become death's bride. Yumtsek, the god of death (third panel) is seen seated and holding a flower, *nic-te,* in his hand. The text above reads: "He receives a flower [god of death] Yumtsek, he who has the power of death. Twelve [days before] the second [period]."



Photos © Yuri Knorozov, Leningrad

Photo © Inge Morath, Magnum, Paris

Reading the stars

The Mayas kept careful astronomical and meteorological records in an attempt to determine the onset of the rains, when maize was sown. It is difficult to judge what success they had in forecasting weather, but Mayan astronomers made a thorough study of the solar year, picking out thirteen constellations similar to the signs of the zodiac. Each constellation bore the name of an animal. Right, reading from right to left in this extract from the Paris codex, we see a rattlesnake (today's Pleiades), a turtle (Gemini), a scorpion (Cancer). The Mayan zodiac as depicted in the Paris codex, can be traced back to the first centuries BC. Above, El Caracol, the impressive Mayan observatory at Chichen-Itza. It consists of a tower-like construction built on a huge raised platform measuring 67 by 57 metres. In the centre of the tower rises a spiral staircase in the outer wall of which windows were pierced to allow astronomical observations to be made.

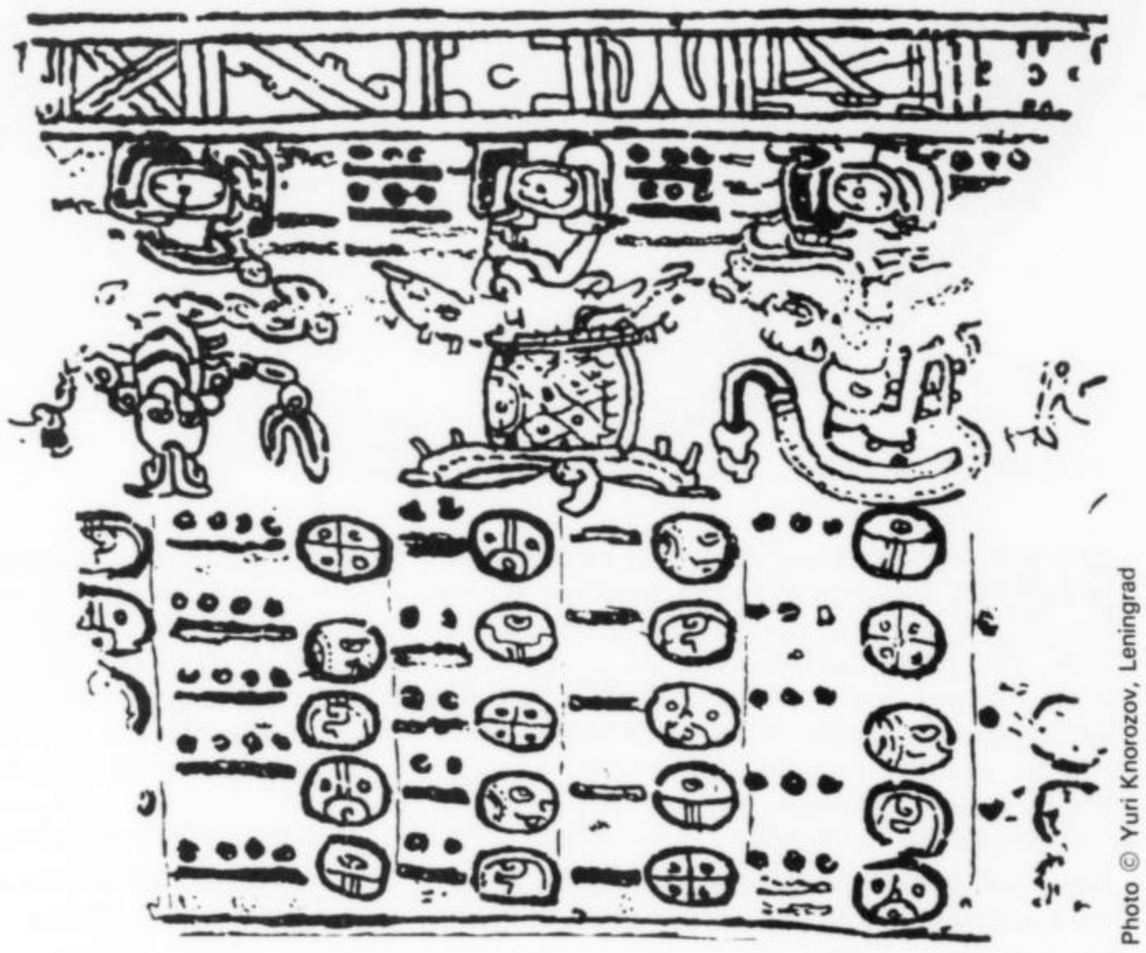


Photo © Yuri Knorozov, Leningrad

account of matters relating to Yucatan). In this manuscript, the franciscan Diego de Landa, Prior Provincial and later Bishop of Yucatan, informed his superiors about the Maya Indians and about what he had done to eradicate heresy.

The heresy was wiped out and with it the culture that embodied the spiritual world of the Indian. Many thousands of Mayan manuscripts perished, but the franciscan's *Relación* has come down to us, a unique source of knowledge about the ancient Mayas. The *Relación,* a copy of which was discovered in 1863 by the French writer and explorer Brasseur de Bourbourg, contained not only an "alphabet", but examples of words written in Mayan signs. But for long these had been considered to be, if not a forgery by Diego de Landa or whoever copied his manuscript, as at best a highly inexpert attempt to correlate the letters of the Spanish alphabet with Mayan sign-drawings.

Knorozov began by checking de Landa's alphabet and it soon became apparent that there was no forgery or confusion either in the alphabet or in the examples. Outstandingly accurate in everything he did, de Landa had tried to make it easier for his superiors to understand Mayan hieroglyphs by using in his alphabet not letters but their names, since they were actually nearer and corresponded phonetically to some elements of Mayan hieroglyphics, and the names of letters consist of syllables. Knorozov understood this from a casual remark of de Landa's: "they (the Mayas) write in syllables..."

However, the Landa alphabet contained only examples of Mayan signs and was not a complete catalogue. Of the three hundred signs, it gave only those which directly or closely corresponded to the names of the letters of the Spanish alphabet, and these totalled only twenty-five.

The position was further complicated by the fact that, as noted earlier, hieroglyphics constitute a mixed system of writing and are a far cry from the almost ideal simplicity of letter combinations. Not only were there three hundred signs, but the signs themselves performed varied and sometimes dual functions. There were three kinds of sign: ideographic signs, giving the roots of words; phonetic, conveying one syllable or one sound; and key hieroglyphs or determinatives, which explain the meaning of words but are not themselves words that are meant to be read (the word "robin", for example, can mean a bird or a man; the key sign tells the reader which is meant).

Knorozov turned again to mathematical analysis of the grammatical laws of language. For this purpose he used mainly the texts known as the *Books of Chilam Balam,* which were written in the sixteenth and seventeenth centuries and consisted of Mayan texts transposed into Latin script. Parts of these texts referred to the pre-Columbian period and were consequently nearest of all in time to the language of the hieroglyphic manuscripts.

Photo © Roger Viollet, Paris

Stone disc portraying a Mayan ball-player. The Mayans played a ritual ball game a form of which still survives in north-western Mexico. Games took place in a walled, rectangular court. The players struck a solid rubber ball against the walls with their forearms and hips. The ball travelled at great speed and fatal injuries were not uncommon. The players' hips, elbows and knees were protected with leather padding. Post-game ceremonies are believed sometimes to have included the sacrifice of the players of the losing team.

Each given a number, the hieroglyphic signs were used to discover the grammatical laws of the language. And though there was very little material to work on (all three manuscripts filled only two hundred and ten pages) the basic indicators of the Mayan hieroglyphs, such as the repetition frequency of each sign and its characteristic placing, were gradually determined.

This method, which has come to be known as "positional statistics", finally revealed the secret of Mayan hieroglyphic writing. Each sign now had its "passport" testifying to its purpose and position in the structure or combination of signs. Cross-checking of individual words gave positive results. Thus positional statistics became something of a Rosetta Stone for Knorozov, except that he had to invent it, not just find it.

The outcome of these enormous labours was a fundamental work, *The Writing of the Maya Indians,* published by Knorozov in Leningrad in 1963.

It remained to read the Maya manuscripts, a quite different but no less time-consuming, complex task. It must not be forgotten that the language of the sixteenth century Mayas in which the *Books of Chilam Balam* were written, is very different from that used by Maya Indians today. The manuscripts, however, contained texts in a language going back two thousand years.

An enormous amount of work was done by Mexican scholars at the Centre for Mayan Studies at the Autonomous National University of Mexico, who concentrated on the problem of determining the language of the manuscripts. They attempted to discover which of the existing groups of Mayas talk in a language nearest to that of ancient times, just as we might ask which of the modern "Latin" languages, Spanish, Italian, French, Portuguese or Romanian, is nearest to the Latin of ancient Rome.

This work continued simultaneously in several countries and at the end of 1975 Knorozov's new book, *The Hieroglyphic Manuscripts of the Mayas,* was published, containing translations of all the four extant manuscripts.

These manuscripts are not books as we understand the word, but reference manuals or "encyclopaedias" covering all facets of the life and traditions of the ancient Mayas. "These manuscripts", writes Knorozov, "which were reference manuals for the village priests, were certainly not meant to be read straight through. The priests used them to find their way through the labyrinth of ritual for the countless movable feasts... The official significance and ceremonial of these feasts were, it is clear, known not only to the priests but also to the lay community."

The full extent of Knorozov's talent and achievement shines through his translations (see examples page 12). It is hard to overestimate their importance for our understanding of the history of the Mayan people.

First of all, the very existence of writing confirms the extremely high level of civilization attained by the Mayas. Secondly, during the deciphering process, irrefutable proof was obtained that the writing was a "local" invention, since the hieroglyphic signs are based on local flora and fauna and on Mayan traditions and culture.

Photo © Dominique Darr, Paris

Terra-cotta figurine of an ancient Maya notable. Once the Mayas developed an agricultural civilization, society quickly divided into strictly defined classes and a wide gulf appeared between the nobles and the ordinary people. Power and property were transmitted through the eldest son and the younger sons of nobles became priests or warriors. Other classes were formed by artisans, merchants, sorcerers, doctors and soothsayers and each class had its own patron deity.

Detailed study of the manuscripts, however, tells us much more than that. For instance, with the aid of the manuscripts it is possible to look into the skies of that remote era, since the Mayan priests were excellent astronomers who recorded not only the annually repeated movements of the sun, the moon and the stars of the solar system, but also such unusual occurrences as the appearance of shooting stars, meteorite showers and eclipses. These happenings of one and a half thousand years ago can hardly fail to interest contemporary astronomers.

The Mayas also created a calendar which was more accurate than our own Gregorian calendar. The length of their solar year was 365.2420 days, as compared with the 365.2425 days of the Gregorian calendar and the actual length of the solar year which is 365.2422 days. Such startling accuracy draws attention to their whole system of reckoning the years. Researchers have established that the Mayas had a mythical zero date, the year 5,041,738 BC, and that they began their chronology at the year 3113. How and why these dates were selected is not yet known for certain. Any assumption that the year 3113 marked a world flood or the birth of a Mayan Messiah is pure conjecture.

Knorozov has translated all the known Mayan manuscripts (the fourth was published by the eminent American authority on the Mayas, Michael Coe, who discovered it in 1973 in a private New York collection). But it is entirely possible that new Mayan books may be discovered. Moreover, there are Mayan inscriptions on countless steles, on buildings and utensils, on frescoes, basreliefs and other products of the culture of this remarkable people.

These inscriptions are also written in hieroglyphs, but their "construction" differs in many respects from that of the manuscript writings. Most of these inscriptions, as we know from those that have been deciphered so far, deal with historical rather than religious or ceremonial themes, and this should enable scholars to fill in many blanks in our knowledge of the Mayas and of pre-Columbian America.

The Mayan manuscripts, however, are only a part of Yuri Knorozov's theoretical research in the field of the theory of signs. With a team of young Soviet scientists he has published a series of basic works on inscribed seals from Harappa and Mohenjodaro, and other scholars, using his method of positional statistics, are attempting to unravel the mysteries of other as yet undeciphered scripts.

■ **Vladimir A. Kuzmishchev**

The ancient ways of the Mayas

by Yuri Knorozov

THE newborn Mayan babe was brought to the priest "so that he could look into his destiny, determine his future occupation and give him a name". A text on portents, dating back to the colonial period, tells us that babies born on the days of *Kan, Chuen* and *Men* were destined to become craftsmen, on the days of *Khish* and *Kib*—warriors, on the day of *Khets'-nab*—doctors, etc. The priests were thus in a position to classify children immediately by occupation and advise parents how to bring up their children.

Children were breast-fed until the age of three or four. Girls grew up under the watchful eye of their mothers.

The Mayas considered a squint as a sign of beauty, a condition they induced by suspending a small ball—attached to the hair by a string—between the child's eyes.

The age of maturity for the Mayas was fourteen to fifteen years for girls and seventeen to eighteen for boys. Initiation rites, after which marriage was permissible, took place earlier, however, to facilitate parental arrangements for marrying their children. Following their initiation, sons helped their fathers in their work. A young man bore his father's name, but on marriage, added his mother's name.

During the first years of marriage, the husband worked for his father-in-law, living with his wife in a small hut on the family grounds. If he complained about his work, he could be sent packing.

Most women wanted to have many sons and made special sacrificial offerings to six gods and to deities at the four cardinal points, the goddess of the moon and five other goddesses. On special days, women spent the night in the temples hoping to be visited by a benevolent god.

A woman meeting a man would turn her back on him or, at least, lower her eyes. If a girl happened to look at a man, her mother would rub her eyes with pepper. On festive days, men and women feasted and danced separately, although, according to an ancient tradition, men and women danced together a special "rocking dance". If a woman was unfaithful, she was censured, but her seducer was stoned to death.

Filed teeth were considered stylish for women. After marriage, both men and women were tattooed above the waist, except for the breast; they also rubbed themselves with a red ointment which protected them from the heat, the cold and mosquitoes. Women perfumed themselves, applying to their skin a red aromatic bar of resin; they garlanded their hair with flowers and, after dark, with glow-worms.

During the nomadic period it was the custom to kill off the elders because of the scarcity of food. The Itzas killed off their old people after they had reached the age of 50 (52 years was regarded as the maximum life span) to prevent them from becoming sorcerers. Agricultural communities, however, valued their elders for the wealth of experience they had accumulated (in the choice of land, in seed selection, in weather forecasting, etc.).

Notions about the dead changed frequently and these were reflected in the burial rites. Some drawings represent a dead body in the shape of an embryonic child, conveying the idea that the dead ancestor is incarnated in the newborn child. The dead were painted red (a very ancient custom which has been diversely interpreted) and tightly swathed. The dead were considered to be very dangerous, a belief probably connected with instances of contagion resulting from contact with a corpse.

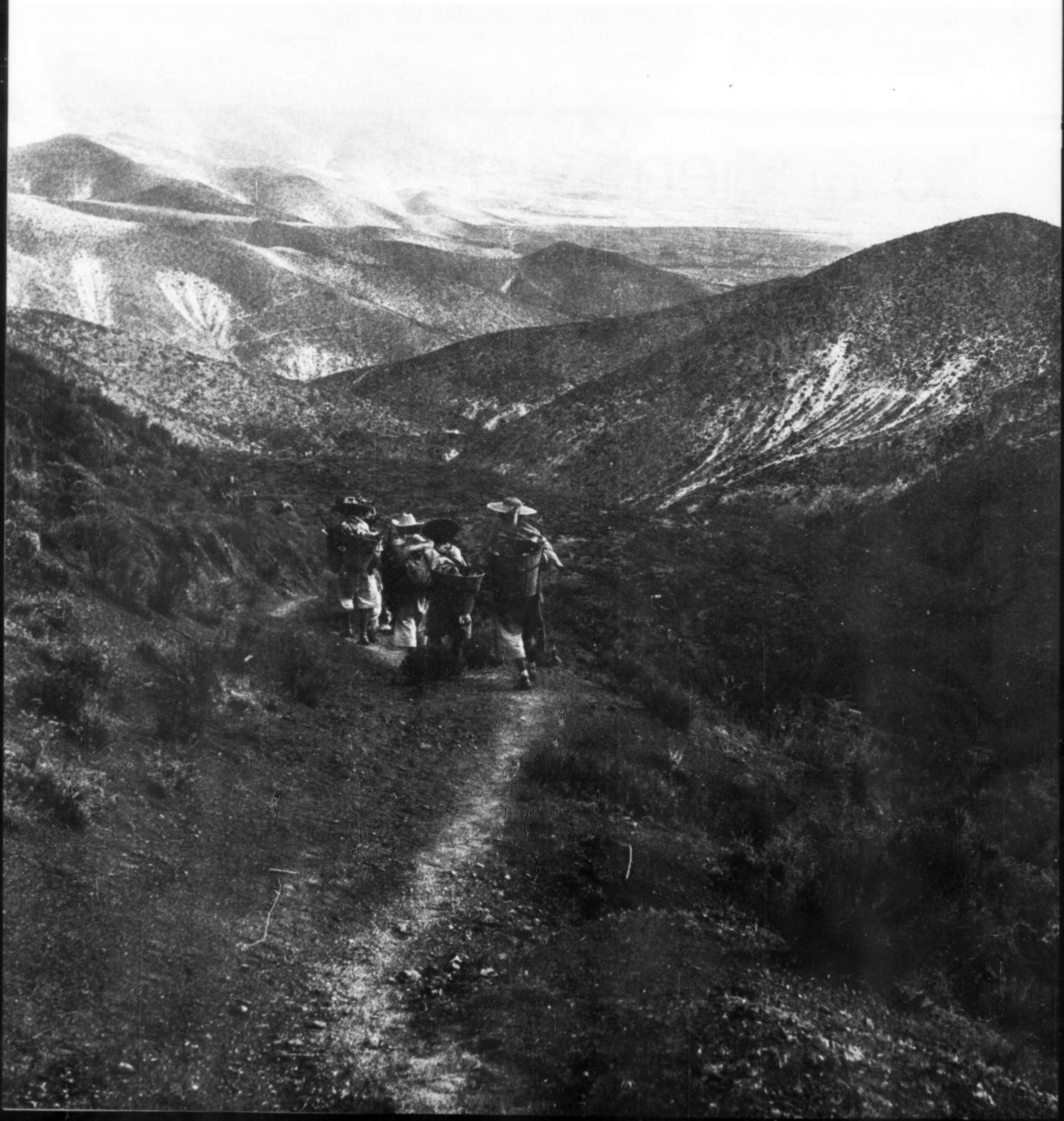
The dead person was clearly made ready for a journey. He was wrapped in a travelling robe, bits of precious nephrite and a ball of dried dough were placed in his mouth, things a traveller would bring along. The statuettes of gods and various other articles were placed in the grave.

In connexion with the tales that had been told about ancestors having arrived from the north, it was believed that when a person died he set off for his legendary home in the north. According to other beliefs, probably of much later origin, the dead person left for an underground world (*ich-chab* or *ich kab* = "in the ground"). The ghost of a dead person passed successively through nine spheres of the nether-world before he could be incarnated in the newborn child.

YURI KNOROZOV *is senior adviser at the Miklukho-Maklai Institute of Ethnography of the USSR Academy of Sciences and a leading authority on the theory of signs and on the ancient civilizations of India and the Americas. The author of over a hundred scientific papers, he was awarded the State Science Prize in 1978.*

The Huichol Indians

A pre-Columbian culture in Mexico today



A group of Huichol Indians crossing the imposing landscape of Mexico's Sierra Madre Occidental on the traditional pilgrimage to the holy desert land in search of peyote. The Huichol, or *Wixitari* as they call themselves, form a compact ethnic and cultural group with a whole system of mystic and religious beliefs and a highly original art (see central colour pages). The yearly ritual pilgrimage, which may last up to three months, is a period of fasting and abstinence during which the Huichol not only emulate their forefathers, they temporarily "become" their sacred ancestors.

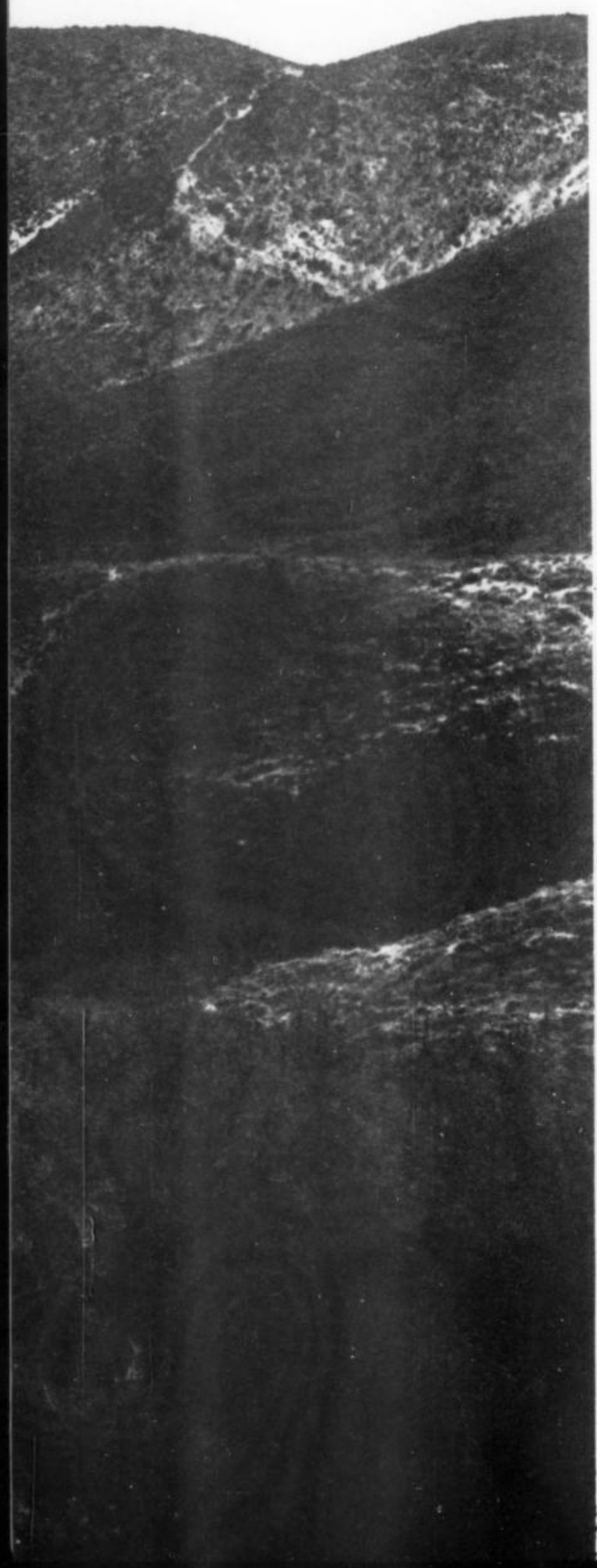


Photo © Marino Benzi. Taken from *Les Indiens du Mexique*, by M. Benzi, Editions du Chêne, Paris

by Juan Negrín

THE men who came to Mexico in search of gold and souls ripe for conversion, and stayed to beget the people of mixed race who inhabit the country today, paid little heed to certain groups of the indigenous population who retreated into the fastnesses of their steep-flanked sierras.

The 6,000 or 7,000 Huichol Indians, who today live on communal land in the south of the Sierra Madre Occidental in the Mexican States of Jalisco and Nayarit, are survivors of one of these marginal groups. The area they occupy is impenetrable, except on foot, formed as it is of a jumbled landscape of canyons anything up to 500 metres deep and of peaks over 2,000 metres high. The Huichol do not constitute a single ethnic group but are divided into three tribes, the Huautüari, the Tuapuritari and the Tateikitari, which differ in both language and culture. Their languages belong to the Uto-Nahuatl family, and they had settled in the Sierra before the Aztecs entered the valley of Mexico.

The strength of their culture was such that, far from allowing themselves to be absorbed, they continued to develop their art along the lines which they had followed before Cortés appeared on the scene. Today, just as in the past, the Huichol people give renewed vigour to their collective memory by the intense celebration of complicated rites, and thereby aspire to develop a strong and healthy "spiritual heart" (*iyari*). They live in conditions of poverty and impose on themselves additional privations in the form of vows and sacrifices. In the words of the Huichol artist José Benítez: "This is how the *xuturite* suffer (*xuturite* are "paper flowers", which is the name given to the Huichol in the "language of the gods"): they go without eating or sleeping, without possessions and without knowing where they are going. They are poor and innocent, but they are rich in their *kupuri* (soul) and life".

There is nothing negative in the indifference of the Huichol to material deprivation. The *iyari* that grows out of their self-discipline imbues them with the dignity and integrity that are such striking characteristics of the people of the Sierra. The first study on the development potential of the Huichol region, carried out by the Mexican Government in the mid-1960s, concluded with the observation that the Huichol had scarcely altered their outlook on life over the centuries, if at all, and that they had upheld and preserved the traditions of their world, which they considered to be incomparably superior to the civilized world, even when the latter was presented to them as highly desirable.

In contrast to modern man, the Huichol esteem life for its transcendental and immanent aspects. The "spiritual heart" consists of a sediment of impersonal memories which have formed since the dawn of mankind. The ancestors, such as Fire ("Our Grandfather"), the Sea ("Our Mother"), and the first animals, sacrificed their physical hearts to give life to the Huichol and to invest them with *iyari* and the power of supernatural vision. The Huichol try to follow the example set by the creators and to make themselves worthy of the spiritual life through material sacrifice.

The most menial tasks of the Indians are all linked to the creation of the world which finds echoes in the microcosm of each individual life and in the essence of all that surrounds us in the plant and mineral world. The present is blended with the eternal, eliminating the need for "distraction" since, as the Romanian historian of religions Mircea Eliade has written: "any occupation entailing responsibility is in itself a means of escaping from time". These tenets of the Huichol are at the very root of pre-Hispanic thought in Latin America and of universal religious feeling.

Huichol art takes a number of forms, the first of which is sacred, mystical, transcendental and collective. It is a religious art "dedicated to worship" that is "capable of arousing, as well as describing, spiritual experiences". Only the shamans or "chanters", known as the *maraacate* (singular: *maraacame*), understand the exact forms and precise significance of this art, which can be considered as the manifestation of a

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JUAN NEGRIN, *Mexican scholar and writer, has been carrying out research on the art and religion of the Huichol since 1970, living among them and undertaking a number of expeditions to their holy places. He has organized several important exhibitions of Huichol art in Mexico and the United States and his writings on Huichol religion and culture include :* The Huichol Creation of the World, *E.B. Crocker Art Gallery, 1975 ;* El arte contemporáneo de los huicholes *(Contemporary Huichol Art), Guadalajara University, Mexico, 1977 ; and* Apreciación subjetiva de la cultura huichola *(A Personal Appreciation of Huichol Culture), UNAM, Mexico, 1978.*

CONTINUED PAGE 23

The Huichol gods and the creation of the world

On the colour page right and the two central colour pages, we reproduce six yarn paintings by two leading Huichol artists, José Benítez Sánchez and Tutukila Carrillo. Below, extracts from the artists' own accounts of the myths portrayed in the paintings. See also front cover with yarn painting by another great Huichol artist, Juan Martínez.

Colour page, right

Top, **The Womb of the World,** by José Benítez Sánchez
Here we see the world. It was formed by Kauyumarie (the deer-spirit, soul of the gods) from a woman. Her name is Tatéi Yurianaka. Indeed, the earth was originally a woman who lived in the first world of Watetuapa. There, Kauyumarie asked her if she would like to become a world which would be inhabited by the most important gods. She accepted and Kauyumarie entered her womb, which started expanding as though she had become pregnant. Thus Kauyumarie is represented as a Deer-Person (at upper centre) within a round ball, which is Tatéi Yurianaka's womb. He is implanting the seeds of the fruits and the plants which will sustain our lives. At the very centre he planted the first plants which man would collect before he learned the art of cultivation. Amidst this produce he also placed an edible worm, *kawi,* and the iguana to serve as food for his "angels," the future Huichol. Helping Kauyumarie are his divine assistants. He placed Tatewarí, the Master of Fire, (at left) in charge of the Blue Deer, the ancestor of our deer, whose blood is the nurture of his soul. Tatewarí, who cooks our food, has a sacrificial knife in his hand. He walks on flowers as does the other great deity Taweviékame, the Sun (represented on the opposite side). Below, Pariya (right), the Spirit of Dawn in the land of peyote, and Vieruku Temaiku, the Young Vulture as a person (left), are in charge of the prayer gourds. The world is surrounded by water. Four eagles appear from the foam of the seas which circle the earth. Each eagle is a guardian of one of the four corners of the earth.

Photo © P. Lloyd Baker, Oregon

Bottom, **After Their Death, the God-Spirits Gather in Wirikuta,** by José Benítez Sánchez
The ancestor-gods have died in flesh, but they are still alive in spirit. Every year the god-spirits gather to visit their chief, Elder Brother Kauyumarie. Even after the ancestor-gods became disembodied their womb remained in the holy desert of Wirikuta. Here they meet after a year has elapsed. Their hearts, their souls, their pulse and their words are all placed together upon the altar of Parietsié (at bottom centre) where they first saw the light of the earth's surface. Tatéi Yurianaka, Our Mother Moist Earth, and Tatéi Werika Wimári, Our Mother, Young Eagle Girl who is the spirit of the sky (perched atop Yurianaka), are above the altar. Our Elder Brother Kauyumarie is depicted as a deer (at right) with Our Mother Corn, represented above his back (top right) as a corn plant. Emerging from the right of the altar, Tatewarí, the god-spirit of Fire, is depicted with his flames rising about Kauyumarie. Our Father the Sun (at lower left), appears at the gathering of the god-spirits in multiple forms. His heart is a deer (far left) whose red vertebrae are visible.

Photo © Juan Negrín, Guadalajara, Mexico

Central colour pages

Top left, **Kieri Awatusa Is Feasted and Consecrated,**
by Tutukila Carrillo
All the god-spirits gather in Teacata and prepare a celebration to grant White Antler status as a god-spirit. In recognition of his attributes, he received the votive arrow, the greatest symbol and instrument of power. The arrow, decorated with a bow, small footwear and a mat on which his spirit can rest, are placed at the base of his plant form. A bull is sacrificed to him so that its blood may nurture his spirit. Incense is burned in a three-legged clay vessel to honour the bull. Great Grandmother Growth and Grandfather Fire dedicate votive candles to the spirit of Kieri. Tsítsika Temai conveys his felicitations from all the other god-spirits. Xaye, the rattlesnake, conveys his gratitude to the god-spirits for receiving charge of guarding the Kieri. Awatsay, the crested woodpecker, will alert the Kieri spirit to the presence of those who approach. The Moon and the Sun each offer him their personal *nierika* so he can be in contact with their spirits.

Bottom left, **After the Flood,**
by Tutukila Carrillo
The ancestors found the first dry land after the flood at Xápaviyemeta. In the canoe (upper right) sit Watákame with his rowing stick, Tacutsi, the mighty deity of growth, with her staff, *itsu,* and the black bitch of Watákame, embodying Tatéi Yurianaka (Our Mother Moist Earth), with the squash, maize and grains they saved. They consecrate this spot by leaving an arrow and a *nierika.* Tacutsi begins her search for Nierika Mamna. It is found near where it had been left, at Kiewimuta. Gathered again before the *nierika* are Tacutsi (at left) with her staff and Tatewarí, God of Fire, seated on their sacred chair, *uwén,* while Tamatsi Kauyumarie (Elder Brother Deer-Spirit) and Tamatsi Waxakuaxí (Elder Brother Deer-Tail) appear above, flanking a large arrow. Seeking his spiritual being, Tamatsi Kauyumarie takes his bow and arrow (at right below the canoe) to hunt the peyote, *hikuri,* which is also himself as a deer. At Teacata, near Tuapuri, Tacutsi, Tatewarí and Tamatsi Kauyumarie (clockwise at lower right) founded their god-houses and placed their sacred arrows. From the bowl beside the lower god-house is served ground peyote as the ancestors celebrate the feast of *hikuri.* Tatéi Yurianaka (bottom centre) has decided to return to the coast, accompanied by Watákame and his black bitch. She carries with her a pot and a votive gourd containing all the seeds for new growth.

Top right, **The Ancestor-Gods Try Peyote,**
by José Benítez Sánchez
Here we see the major ancestor-gods : Kauyumarie, Our Elder Brother Deer-Spirit, Tatewarí, Our Grandfather Fire and Taweviékame, Our Father Sun. This is the way they saw themselves when they ingested the peyote cactus, which is their own heart. They each took the same amount of peyote (which is represented as three barrel-like figures with roots projecting to the right). Under the effects of peyote, Kauyumarie saw himself transformed into a deer (upper left). He then turned to see a human face on his tail, with which he began to converse. Our Grandfather Fire (lower centre), was the most affected by peyote ; he saw himself crawling like a serpent, spreading out as ashes from which he saw flowers appear. Our Father Sun took on the shape of a mountain lion as he was still consuming the roots of this peyote. He felt as though he were precariously balanced on a tree about to fall because of its swaying motion.

Bottom right, **The Creation Of Salt,** by José Benítez Sánchez
Tacutsi Nakawé, Mother of the Gods, went to the oceanside where she prepared to die. She pulled out her bones (upper left) which she ground with a stone, and they became salt mixed with earth. She ground the teeth of her jaws and they turned to pure salt, which she sprinkled on the sea. Watákame (far left) watches in awe the transformation of her bones and teeth to salt. When Tacutsi, with black wing-like extensions, stepped into the sea (lower left margin) a large wave rose along the coastline (wavy blue line in centre). Here Tamatsi Maxayuavi, the Blue Deer, was born.

Photos © Juan Negrín, Guadalajara, Mexico

The ecstatic vision of Haitian art

Colour page 22

In an explosion of creativity Haitian artists today are producing highly original works in which tumultuous forms and vivid colours are directly inspired by the experiences and traditions of the Haitian people. Often, perhaps unjustly, labelled "naive" or "primitive" these artists present what the Haitian writer Jacques Stéphen Aléxis has termed "the imagery in which a people enwraps its experience and reflects its conception of the world and of life". Shown here, two typical examples of their work : above, *Bird Island* by Jasmin Joseph ; below, *Paradise on Earth* by Wilson Bigaud. See also back cover.

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(continued from page 17)

collective effort which they control and summon up on ritual occasions, when hundreds of Huichol flock to a ceremonial centre (*Tukipa*), often located more than a day's hard travelling from their scattered homesteads. There they foregather to take part in a supernatural drama, whose purpose is to recreate the propitious atmosphere needed to regenerate the life of the world.

Taking the place of the gods, the participants have to restore harmony between water ("Our Mothers of the Sea, of the Rain, the Sky and the Earth"), fire ("Our Grandfather"), the sun ("Our Father Creator"), and "Our Elder Brothers the Wind and the Deer". For several days and nights, they surrender themselves in a state of fervour to a ritual imitation of the Ancestors through dancing, fasting, and night-long vigils kept to the hypnotic beat of their music.

The Ancestors are invoked, soiicited by the chanting of the *maraacate,* libations and animal sacrifices, and placated by the striving of their human descendants. Thus the immanent spirit of the Ancestors and the vigorous human spirit are blended together in a mutually-sustaining communication between the macrocosm and the microcosm in which the eternal brings fertility to the present.

Boys and girls, young people and old, all take an active part in this union of the human with the divine. Individuals combine their endeavours and enthusiasm to support the extraordinary skills of the *maraacame,* who chants for the people as a whole. The feast of the Ancestors is followed by the feast of the men who have drawn close to the gods through fire, penitence and spontaneous representation. In this way families from isolated homesteads enter into tribal communion.

The creation of magical time and space in the rites conducted at the ceremonial centre reflects and exemplifies the pattern lived out in the family homesteads. The feast is the dramatic culmination of a cycle of daily tasks centred on the cultivation of corn ("Our Mother"), and the most important moment in the ceremony is the "dance of Our Mother", in which she is asked to pardon them for eating her.

This attitude is symptomatic of the Huichol feeling for ecology. "Everything is sacrificed on our behalf: the Corn gives us its daughters, the Deer its young, the Sun its arrows and the Sea its plumed-serpent daughters, the rain-filled clouds." This is the very basis of the customs which the family observes in self-abnegation from day to day. The members of the family live together in imitation of the divine order and apportion their functions and responsibilities accordingly. Four-year-old children, for instance, care for their younger brothers, and share responsibility for them with their parents. Grandparents in their turn hand down the wisdom they have accumulated over the years.

Huichol children are brought up with a religious sense of life which gradually reveals the meaning of the mysteries surrounding them. They listen while the elders recount a miscellany of myths and personal experiences. They learn that everything in their environment is imbued with life and links them to the transcendental reality concealed in every natural phenomenon, that plants, people and animals change into each other, change their names and lose their material form, in the way ice melts to water to nourish the sea and can transform itself from foam into dew, in the way pilgrims with a frivolous cast of mind are turned into rocks and peaks as eternal signs of mindless arrogance.

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Two Huichol sacred objects relating to Tatéi Nuarihuame, Our Mother Messenger of the Rain, whose symbol was the water-snake. Top photo, this coiled serpent, carved in stone, guarded the altar of a temple dedicated to Tatéi Nuarihuame. Lower photo, a sheet of wood on which pieces of yarn are stuck with *campeche* wax to form illustrations representing the fertility of women and the abundance of maize, both of which were influenced by Tatéi Nuarihuame. Objects such as this were the forerunners of present-day Huichol yarn paintings.

"Magical" cures frequently occur, and children witness all manner of "paranormal" events. In addition, they are taught how to represent sacred writing through needlework and weaving, stone-carving, and the use of wax-coated boards to form mosaics made of glass beads and threads of yarn.

The level of expression of Huichol artists depends on their grasp of myth and their personal vision, which requires them to enter into the spirit of the thing they perceive rather than see it as a separate object, to the extent that a highly skilled *maraacame* is said to be capable of perceiving the earth on which he stands as if it were a person and of conversing with it as Our Mother Earth. The aim is to attain the stage where we can see the interior of other beings from within our own being, to commune from heart to heart.

However, in order to acquire the spiritual heart or *iyari* which makes such vision possible, the Huichol have to learn to control their bodies by dominating their appetites and purging themselves of the thoughts which sully their consciousness and distort their visionary powers. To see us with the spirit, as the Ancestors see, the human condition has to be transcended through the *nierika,* which reflects all that exists on both the spiritual and material planes. In the words of José Benítez: "To achieve *nierika,* we make sacrifices by fasting, by not sleeping with our wives, by not thinking evil thoughts but by thinking instead only of achieving *nierika,* so that we may learn something of the *iyari* and *kupuri* (soul) of Our Mother Earth".

To obtain *nierika,* the Huichol must set out on journeys which take them up to 500 kilometres in search of peyote, a species of cactus growing in the desert from which the psychotropic substance mescalin is extracted. The peyote-seekers, known as *peyoteros,* have to develop two personalities in the course of this long pilgrimage. The first of these is the divine, inner personality, which grows as the traveller moves further away from his everyday world. After many days' physical effort spent travelling on foot without being able to quench his thirst until nightfall, and in the night-long vigils he often keeps around the communal fire, bodily needs take second place and the way is paved for the emergence of the spiritual sustenance that is needed to replace the energy of the body. The inner strength of the *iyari* sets out to dismantle the facade of the outer social being, and the pilgrim is reborn with a new name consonant with his newly purified and consecrated personality.

The second personality, the external, profane personality, is evolved to conceal the intense inner reality from the destructive public gaze. People who sacrifice all bodily pleasures do not betray any sign of the suffering they undergo in their spiritual self-gestation. The *peyoteros* discover the true names of the Ancestors as they follow in their steps. They know that physical reality is deceitful and absurd.

The *peyotero* knows that peyote contains the spirit of Our Elder Brother, the Deer of the Sun (Tamatsi Kauyumarie), who immolated himself to give birth to the

peyote and now offers himself up again to be consumed by the happy pilgrim. This is the moment of authentic communion, when the ecstatic *peyotero* comes directly into contact with the gods, since Our Elder Brother represents them all.

The invisible "fawn" speaks to the pilgrim from within. It proclaims the words of the gods and, by causing him to see their changing countenances, leaves some trace of the memory of them in his *iyari.* But it is a lifelong task to enter into ever-closer communication with the gods and with the spiritual essence of our being. In the course of the first pilgrimage, only the outermost veil of the mystery is drawn aside to reveal a luminous and cosmic vision which cannot be immediately assimilated but becomes a tangible experience under the effects of the peyote.

The *peyoteros* return after an absence of several weeks or even months, having fulfilled their misson by bringing back the precious consignment of peyote to be shared in the sacred rites. Throughout their journey, they have endeavoured to recreate their language to accord with their new vision. If we do not grasp the mystical and poetic themes inspired by the complex Huichol ritual, we can only perceive the superficial aspect of this deep-rooted culture, and will fail to understand the significance of its highly original art.

Whenever Huichol art is really authentic, it conveys much more to the Indian than our own art now conveys to us. The observations which Paul Westheim makes on pre-Hispanic art are directly applicable to Huichol art, when he says: "Reality is not reproduced, it is created. It is the reality of magical thought. It is not enough that the artist should see; to describe the occult mythical meaning of a phenomenon, his vision is needed". Westheim has also remarked how "Contemporary realism sets out to reproduce the visible world, whereas the aim of Meso-American realism is to give visible substance to that which is invisible". It follows, therefore, that in order to produce works of art in the Meso-American sense, the creative artist has to live completely immersed in a mythical vision if he is to be capable of representing invisible reality. Such a reality also has a "magical" quality because the artist's creation must both attract and be a home for the spiritual energy of the human being or ancestral god it represents.

The people who produce Huichol craft-objects are often semi-urbanized Huichol who have forsaken their work in the *coamil* (fields of corn, cultivated on the hill-slopes with a planting stick or pole, the *coa*), and have severed their roots with the community. They fear the wrath of the Ancestors, whom they do not wish to "know", either

The hypnotic rhythm of music and dance is an essential element in Huichol rites and festivals. During the festival to celebrate the first fruits of the harvest, a youth, top left, beats out a rhythm on the *tepo,* or three-legged drum. Throughout the day-long ceremony the younger children, ringing bells and beating drums, appeal to the sun to ripen the crops. They are taken in spirit on a journey to the land of their sacred ancestors. Below left, a Huichol market scene.

Photos © Juan Negrín, Guadalajara, Mexico

through the traditional sacrifices or through the invocatory magic of ideography. Craftsmen who produce objects for sale therefore usually do not engage in such activity out of "divine inspiration" or as a form of prayer. In addition to the "deculturation" from which they suffer, they are part of a market system which exploits them. Private traders have a monetary stake in the "decorative" products which the dependent Indians bring to them. Furthermore, since these objects have very little artistic value, these middlemen display little interest in them. Naturally, neither the craftsmen's self-esteem nor their desire to create is encouraged by this trade, in which their work is treated with contempt.

Nevertheless, some of these craftsmen dedicate themselves to a more significant task, seeking to re-assert the identity that has been submerged in their enforced anonymity and to recover the original sensibility which they have sacrificed to the need to produce a large output in order to survive.

Huichol art, like any great art, stems from its creator's need to communicate something that is important to him, something which so moves his heart that it overflows with faith or pain or joy, and has to be exteriorized and communicated by converting feeling into action. The Huichol craft paintings shown on our cover and on the central colour pages are such acts of communication which bear witness to vibrant visions and to symbols that have been organized in such a way as to crystallize an idea and convey a message.

The artistic gifts of the people who made them, José Benítez Sánchez, Tutukila Carrillo, Juan Ríos Martínez and Guadelupe González Ríos, are rooted in the magical and religious education they assimilated so intensely in their youth. After living and working among "civilized" people, these artists have turned again to their ancestral culture, in a desire to reforge their weakened links with it and fulfil the traditional vows.

Their "yarn paintings" are made on plywood boards covered with a thin layer of viscous wax (*campeche* wax) which, according to the Huichol, is produced by a stingless bee. The wax is warmed in the sun to make it malleable, and it is then spread on the board by hand. In some cases, the artist outlines the figures in the wax. The brightly-coloured aniline-dyed strands of yarn are then pressed into the wax base, preferably one by one, with the thumb-nail.

In symbolic terms, the picture is an *itari,* a bed on which the ancestral gods come to rest, and also a field that is prepared for the planting of corn seeds, beans, squashes ▸

With his sparse provisions and his ritual objects in the basket on his back, a Huichol pilgrim, or *peyotero,* sets out in search of the sacred peyote cactus, a quest which will take him up to 500 kilometres away, across the Sierra Madre and the San Luis Potosi desert. The *peyoteros* set out in groups of about a dozen men, marching from dawn to dusk in withdrawn silence and enduring all kinds of privations, under the guidance of a priest or shaman. No other American Indian religious manifestation is more complex or more surprising than this annual ritual pilgrimage.

Photo © Marino Benzi. Taken from *Les Indiens du Mexique,* by M. Benzi, Editions du Chêne, Paris

Photo © Juan Negrín, Guadalajara, Mexico

and amaranth flowers (*huaute*). The edges of the board are first prepared by making a frame in three contrasting colours, and these colours to some extent determine the tones of the colours used inside the picture. The outlines of the figures are then formed before the background is finally filled out in one or more colours.

These "yarn boards" first appeared on the market in 1951, when Professor Alfonso Soto Soria held an exhibition of them in Guadalajara in Mexico. However, the technique dates back to before the Spanish Conquest, and it was used for religious purposes in the form of small votive offerings. Even today, prayers addressed to the Ancestors are drawn on them.

Before yarn and glass beads came to be used, the wax was used to mould small bas-reliefs inside bowls made out of gourds or on roughly circular pieces of wood, while grains and seeds and cotton and agave (*pita*) fibre were adhered to the wax. All these materials are still used, but the sharp contrasts and bright colour combinations that can be obtained with commercial woollen yarn are more successful at evoking the visions conjured up under the effects of peyote.

For Huichol artists in general and José Benítez in particular, artistic creation is the only effective means of bridging the deep gap separating the subconscious and spiritual culture from the culture acquired from living in modern Mexican civilization. Through expressing his culture in ideographs, the Huichol artist defends an indigenous way of thinking which confers meaning on his personal life. As a spokesman for his culture, the Huichol artist identifies himself with the mythical personages participating in the drama of the pictures. His inner conflict is exteriorized in the figures in his pictures, which are full of movement, magnetism and polarity, and are held together almost as if by muscular tension.

In any event, the expression of Huichol artists is authentically personal and is bound up with the experiences which have had an impact on their hearts and memories. For instance, there is a noticeable change in the pictures which José Benítez or Guadelupe Gonzalez produce on their return from a pilgrimage. Their themes are drawn from events connected with the time of the year, such as the rainy season or the time when the soil is prepared or the crop is harvested, or refer to intimate happenings such as a disturbing dream, or the birth or death of a child. Since the experience which moves the inner being does not repeat itself, each work is unique. The pictures are a testimony to what the artist is striving to see through his *nierika,* his inner mirror which has been polished by his sacred experience. The forms emerge from the *iyari,* that heart which, according to the Aztec tradition, is a "picturebook". The worst possible calamity for the Huichol would be for him to "lose the *iyari*" which enables him to enter into contact with the vast genetic memory stored in "Our Ancestors", who are Nature itself.

This art form has arisen out of a combination of commercial craftsmanship and the peculiar genius of a few acculturated Huichols who are nevertheless committed to abiding by their ancestral traditions. Their art has the virtue for us of being an excellent means of making contact with Huichol culture. It is a visual intermediary which speaks to us through the common denominator of beauty. Through it, the Huichol artist succeeds in transmitting his subjective vision to which we respond by participating in its universal values through its poetry and beauty. It is a modern art form, stemming from the sense of identity which the artist has of himself, and it has been created with the idea of communicating with the non-Huichol public. That is why the artists have insisted on our spelling out the "grounds" on which their visual execution is based. Their works are evocations of sacred memories springing from what the heart remembers of what their grandfathers or the *maraacame* used to tell them, which is now all stamped with the imprint of their own experience. This is why José Benítez stated in an interview that, if his pictures were exhibited as mere ornaments, lack of respect would be shown to his "forebears".

The antiquity of Huichol culture can be judged by the fact that the Huichol had settled in the mountains of the present-day Mexican States of Nayarit and Jalisco even before the Aztecs arrived in the Valley of Mexico. The Huichol are not a homogeneous ethnic unit but a grouping of three linguistically and culturally distinct tribes. Left, three Huichol women in richly ornamented festive dress. Below, a young Huichol.

It is to be hoped that this authentic culture with its striking beauty will be able to follow its own course of independent and "endogenous" development and maintain its own integrity.

We must not lose sight the universal aesthetic values and deep-rooted philosophy of the last people to bear witness to the complex aboriginal vision of Meso-America.

We have seen how the urbanized Huichol living by the *mestizo* system of values, are burdened by their awareness of a supposed inferiority and their despair at having lost their roots. We have seen amongst them the havoc wreaked by alcoholism, crime and total destitution, and by illness and destruction of the family unit.

When we speak of educating the Indians, we should not forget that they have been brought up in close harmony with their environment, which they know through and through, and with a deeply-rooted system of rites and oral traditions. What we should offer the Huichol, and other indigenous groups throughout the world, is a bicultural education, conceived in part by "wise men" versed in their own traditions.

■ **Juan Negrín**

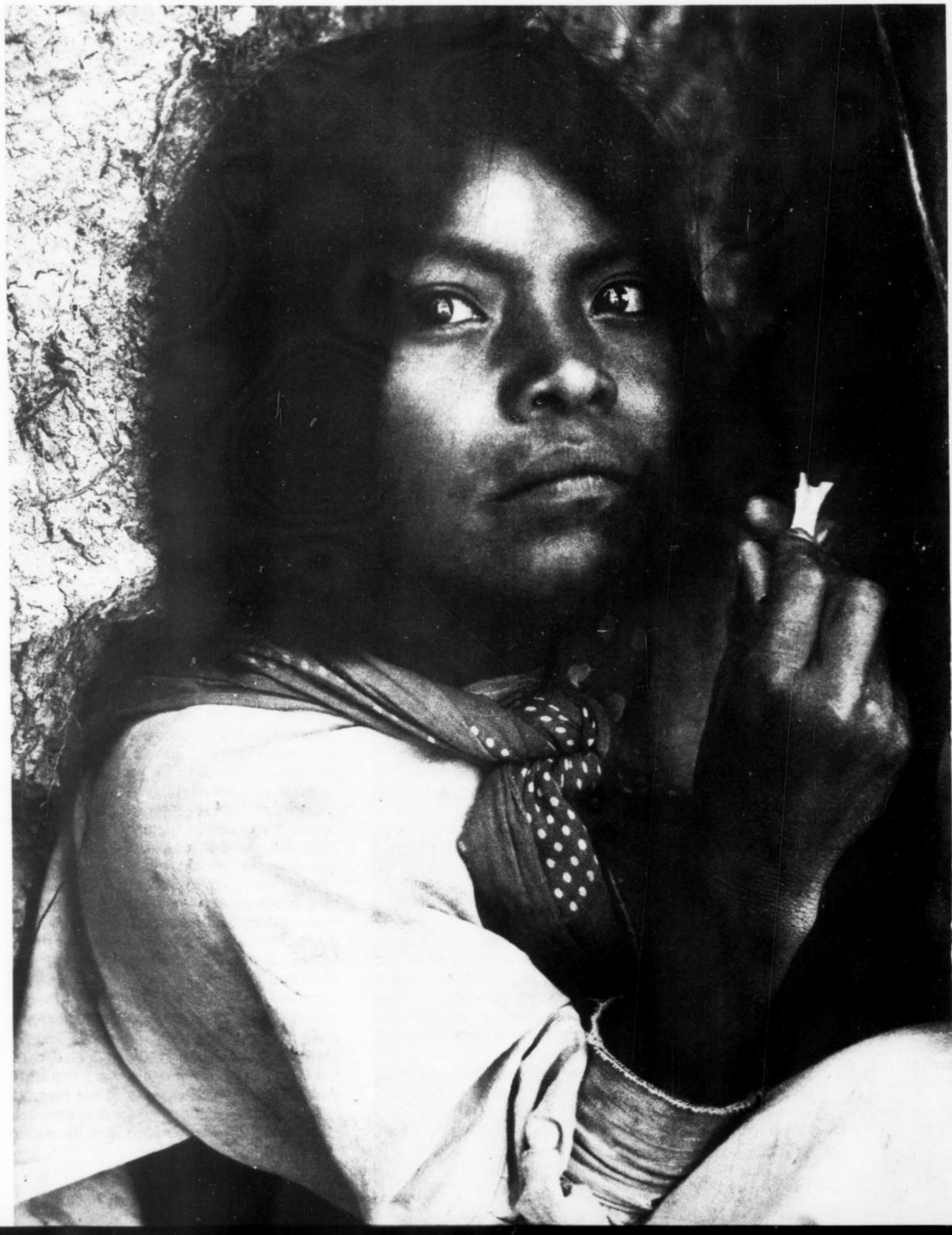
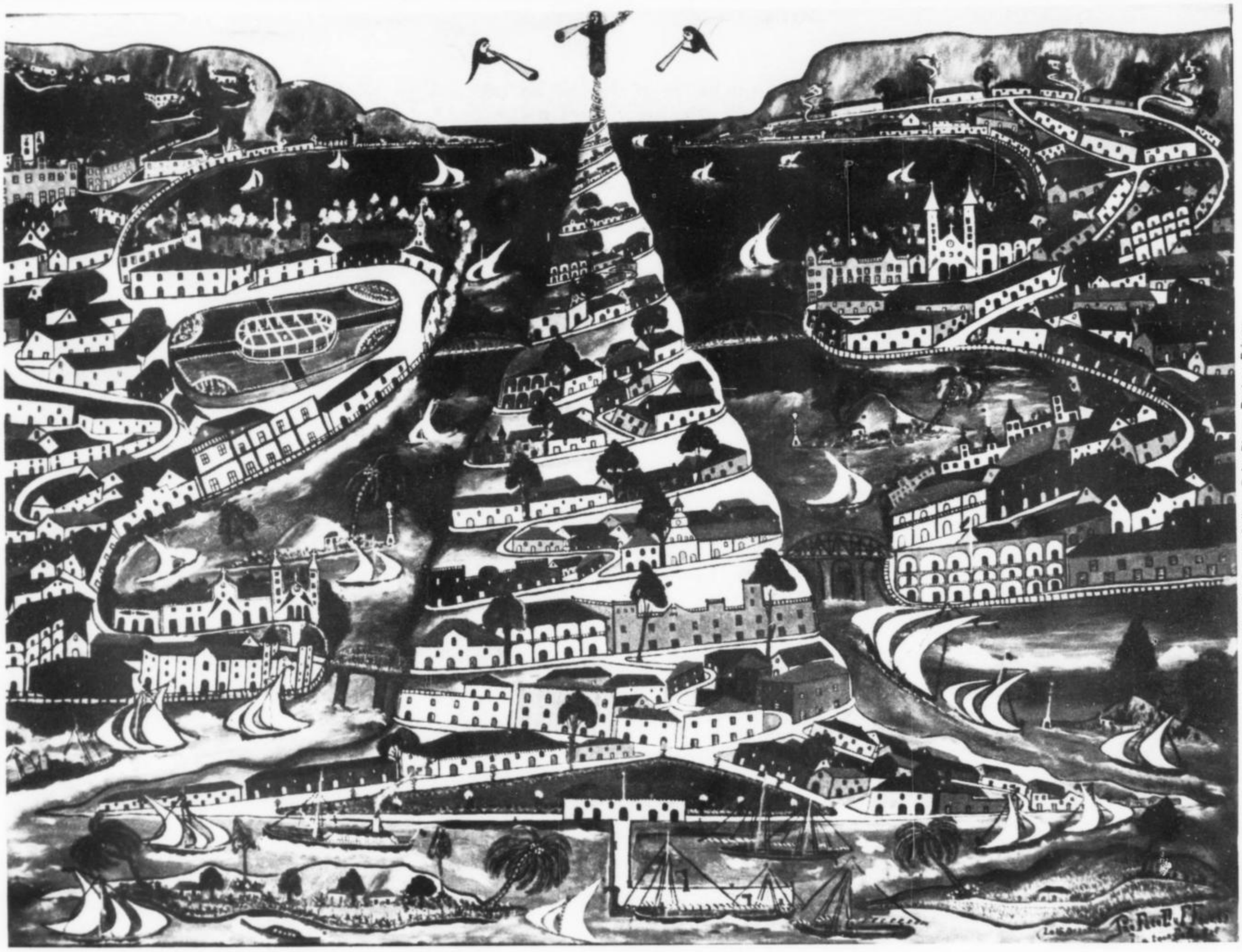


Photo © Marino Benzi. Taken from *Les Indiens du Mexique,* by M. Benzi, Edition du Chêne, Paris



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Préfète Duffaut is one of the leading exponents of Haitian "naive", or popular painting. All the imaginative power and unfettered creativity of his art, so deeply rooted in the Haitian heritage, is to be seen in his work *The Harbour,* reproduced above.

The bewitched reality of Haitian art

by René Depestre

RENE DEPESTRE, *Haitian author, has published several volumes of poems, essays and fiction including* Un Arc-en-ciel pour l'Occident Chrétien *(published in English as* A Rainbow for the Christian West, *University of Massachusetts Press, 1977) and* Poète à Cuba *(shortly to appear in English as* Poet in Cuba*). He has collaborated on two collective works produced by Unesco,* Africa en América Latina *("Africa in Latin America") and* América Latina en sus Ideas *("Latin America through its Ideas") and is currently a Unesco consultant. He has taught at the University of Havana, Cuba, and at the University of the West Indies at Mona, Kingston, Jamaica.*

IF the word *wonder* can be taken to denote everything that differs from the natural and settled order of things, then few countries have travelled so far, so boldly and so gracefully as Haiti along a road paved by wonders. A sense of wonder, in all its burgeoning, multifarious forms, is one of the historic components of the Haitian awareness.

Our people have their own unique way of perceiving the relation between the mind and the faculty of the imagination. Haitians "find tongues in trees, books in the running brooks, sermons in stones, and good in everything". They hear the voice of the gods in sun and rain, in shellfish, in river-fish, in the fluttering wings of hummingbirds and butterflies.

In response to the problems of slavery, a complex fabric of correspondences, myths and symbols evolved between society and the world of nature in Haiti. As a result of this process, which savours of the marvellous, the contradictions inherent in colonialism led not only to voodoo with its states

of auto-hypnosis but to dreamlike forms of speech and behaviour in which the best and the worst of human nature rub shoulders or else collide with unusual violence.

The "bewitched reality" of Haiti is a maelstrom of currents which interpenetrate and commingle: the natural and the supernatural, the picaresque, the erotic, the ineffable, the absurd, the comic, the magical and the entrancing. It has left its imprint on religion and the political mysteries, on orally transmitted folk-stories and literature written in French or Haitian (Creole). It lends an added enchantment to the delights of love, dancing and music ; and it has imbued the plastic arts with scintillating magnificence.

One December morning in 1492, Christopher Columbus, dazzled by the beauty of the Haitian bay, mountains and sky—all equally blue—which stretched before his eyes, exclaimed: *Es una maravilla* (It is a marvel). With his cry of wonder on that fateful day he annexed yet another bejewelled island to the Spanish crown and at the same time opened the horizons of Haiti to the fantastic currents of universal history. He named the new-found island Española, later anglicized to Hispaniola. That morning, although they did not know it, the indigenous population of Haiti, the Arawaks, were transformed by the mysterious workings of providence into the "Indians of Hispaniola".

In the following decades, Europeans practising the same semantic sleight-of-hand would sweep across the "new world". In the minds of these colonizers the *blacks* were created by lumping together Ibo, Bambara, Wolof, Peul, Mandingue and other African peoples stripped of their identity. In equally specious fashion (this time with promotion rather than "denigration" in mind) the *whites* were created from the peoples of Spain, England, France, Portugal and Holland, who carved up between them the *Americas* (another blanket-expression which the colonizers produced like a rabbit from a magician's hat).

Later, the effervescence of procreation in these regions brought forth a kaleidoscope of mulattoes, *mestizos,* quadroons

This is how the contemporary Haitian artist Jean René Chéry visualized *Christopher Columbus Landing in Haiti.* At his first sight of the island, the great explorer cried out in wonder at its luxuriant beauty. Today, this same feeling of wonder and fascination still inspires Haitian literature and art.

Photo © Editions Skira, Geneva

One of the great heroes of the Haitian struggle for independence, Toussaint Louverture was arrested on the orders of Napoleon and deported to France where he died a prisoner at the Fort de Joux in the French Jura. This engraving of his final moments is the work of an unknown artist of the period.

Photo P. Bastin © *Explorer,* Paris

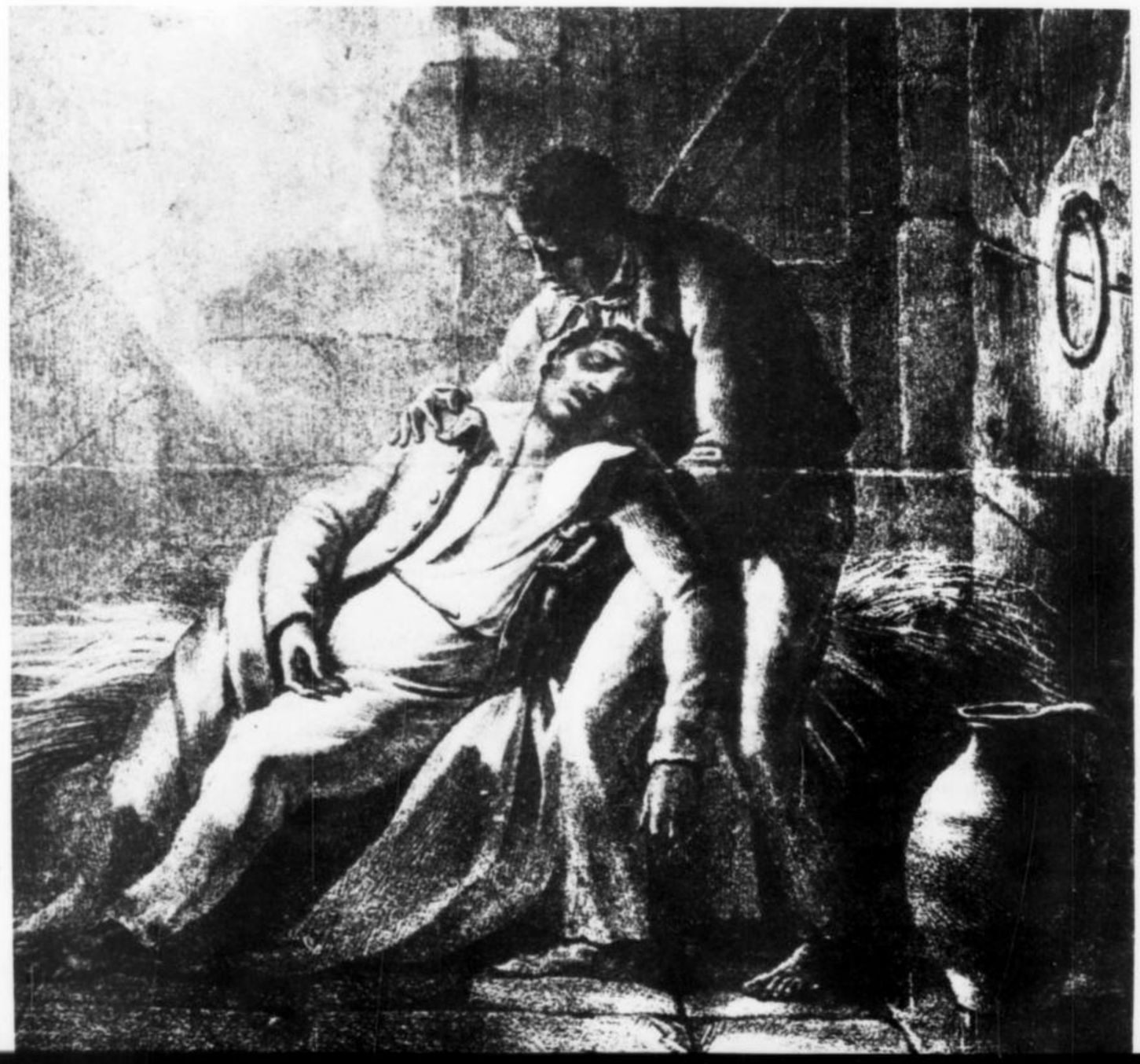


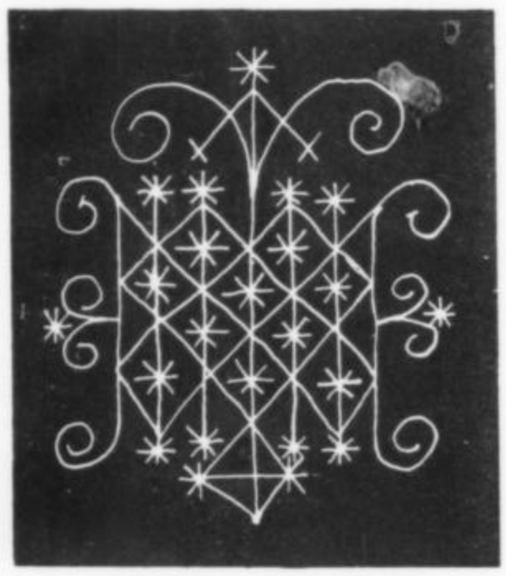
Photo © Editions Skira, Geneva

and octoroons who took their place alongside the already-invented Indians, Negroes and Whites and in their turn gave shape, in misfortune and fantasy, to a spectrum of conflicts and colours so breathtaking as to outdo a rainbow.

From then on the history of Haiti is inseparable from a kind of popular, baroque surrealism which has displayed itself with equal exuberance in collective events and individual lives. Between 1492 and 1697, when the Treaty of Ryswick established a *modus vivendi* between the French and Spanish empires on the island of Hispaniola by dividing it into two separate colonies, a world of skirmishing buccaneers was brought to life in a mass of legends and tales, thousands of improbable yarns were spun of corsairs and freebooters, and the resistance and genocide of the Indian tribes of the Caribbean were recorded in many a hair-raising story.

This imaginative ferment was part and parcel of the economic exploits achieved

Speaking of Haitian painting, the artist Philippe-Auguste Salnave declared: "In my opinion, all these wonders emerging from the heads of men with no culture, no technique and with no guidance are the fruit of pure imagination." Salnave himself took up painting at the age of fifty-two. Above, detail from his *Garden of Eden*.



Opposite page, one of a number of portrayals of *Baron Saturday* by the Haitian painter André Pierre, who is also a priest of the Voodoo cult. In Voodoo mythology, Baron Saturday is the chief of the *loas,* or spirits connected with the cult of the dead. Right, a Voodoo believer possessed by a *loa* draws a *vevé* (mystic symbol of a *loa*) during a Voodoo ceremony. Above, a magic *vevé.* Voodoo is an amalgam of Catholic and African religious beliefs and practices and is similar to the Brazilian *candomblé* and the Cuban *santería* cults.

Photo Guido Mangold © Parimage, Paris

by a reign of terror in plantations and slave workshops. The legendary prosperity of Santo Domingo (as Haiti was also known) filled the galleons to bursting-point with gold, indigo, pearls, precious stones, spices, cotton, coffee and sugar, in the flux of a traffic in human beings which filled the world with unprecedented sound and fury.

While the trade in slaves (known as "pieces of India") and ebony wood was being practised in conditions which defy belief, the prodigies which mark the history of Haiti did not die out in the cruel and monotonous regime of forced labour; instead they found new nourishment in the resistance of the slaves to their terrible fate. Reduced to the zombie-like state of biological fuel, the Africans and their descendants drew from the insecurity which permeated every fibre of their being a dynamism enabling them to reconstitute the dismantled foundations of their identity. The slaves withstood the pressures of an evangelism armed with whips, branding irons and racism, and transmuted their distress into creativity.

Instead of passively assimilating the lessons of the colonial catechism, they syncretized them with the religious beliefs of the Yoruba, Fanti-Ashanti, Bantu, Congo and Fon, to which their memory and collective imagination added new functions linked to the affective and moral needs of the American plantations. Thanks to this mutation of identity, the mythologies and traditions of the African past acquired a truly astonishing force, expressed in new norms of behaviour, highly original ways of feeling, dreaming, "imagining", thinking and acting. The slaves transformed the contradictory patterns of their double, and even triple, cultural heritage (tugged as they were between Africa, Europe and the Amerindian world) into new models with the dynamism to mould through suffering a national consciousness and to nourish the roots of "Haitianity". At the end of the 18th century voodoo was for Haitians a psychodrama, a trancelike system of psychological release; with the coming of the Men of the Enlightenment who led Haiti's war of independence, it was turned into a movement for mobilizing the masses.

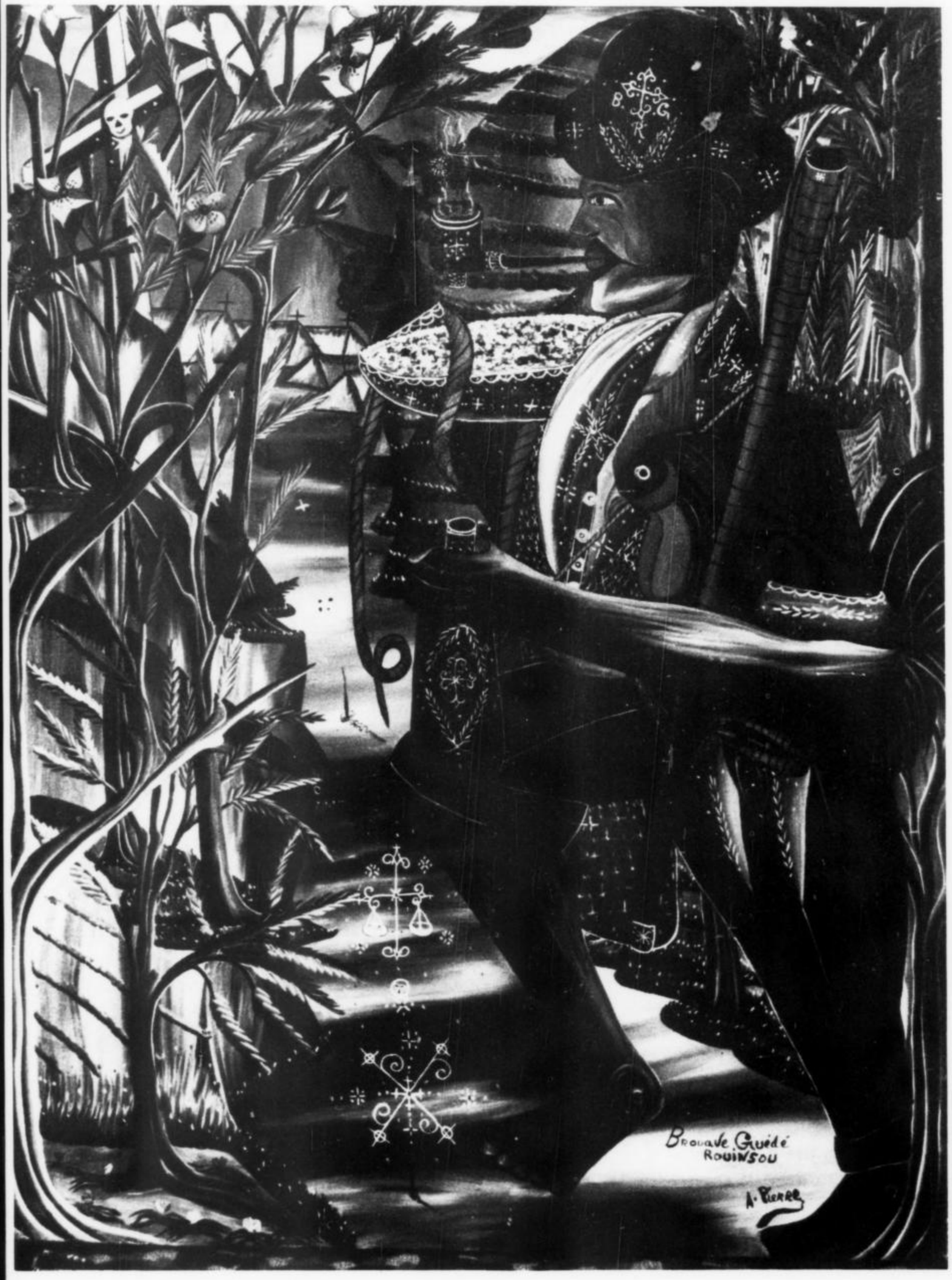


Photo © Editions Skira, Geneva

The struggle for emancipation began on 19 August 1791 with a ceremony famed in the annals of Haitian history. In a scene worthy of the imagination of a Gothick novelist, bands of runaway slaves gathered at Bois-Caiman ("Crocodile Wood") in response to a call from their leader Boukman and swore allegiance to their cause in the midst of a violent thunderstorm. Buffeted by gusts of wind and rain, the insurgents drank the blood of a freshly-killed pig in an ecstatic frenzy, while the lightning-flashes affixed a cosmic signature to their pledge to win freedom or to die. From that night until the Haitians won the decisive battle of Vertières on 18 November 1803, the island lived through a holocaust of fire and blood. During their epic resistance to slavery, no feat of prowess, no sacrifice was too great for the oppressed masses as they fought to achieve the first victory of the decolonization movement in world history.

All the leaders of this pioneer movement, both the circumstances of their chequered lives and the tragic circumstances of their deaths, still live in the Haitian imagination. The first of them, a one-armed prophet named Mackandal, held the plantations in the north of the island in a four-year grip of terror and fascination, until he was captured and burned alive on a square in Cap-Français. Long after his execution on 20 January 1758 his spirit would be discerned in a "walking tree" or in the clairvoyance of a domestic animal or a bird of prey.

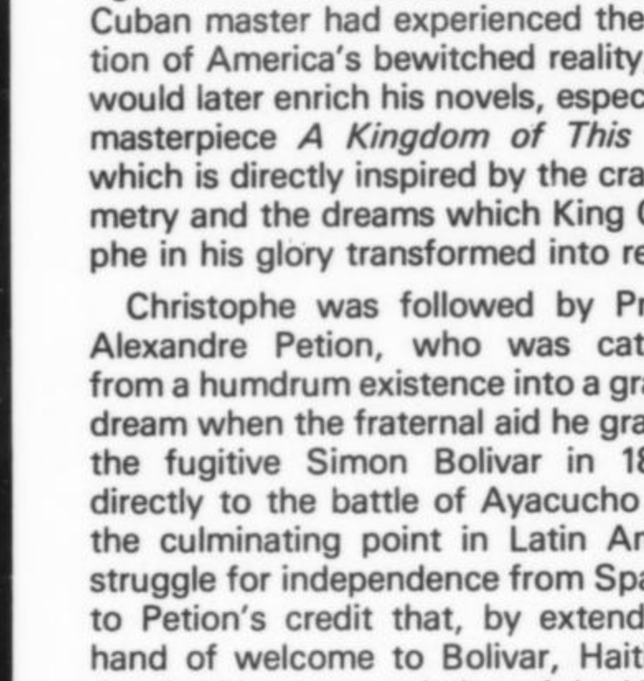
After Boukman, the black giant of Bois-Caiman, came Toussaint Louverture, the great figure who navigated the storms from which Haiti was born. His singleminded drive for the emancipation of the slaves of San Domingo was proof against every blandishment. Then, at the height of his grandeur, on the brink of realizing this grand design, he was captured on Napoleon's orders and shipped to captivity in France. Stricken with nostalgia, he would die one glacial morning, a prisoner in a fortress on a Jura hilltop.

Under his inspired successor, Dessalines, new roots grew on the tree of liberty which had been buried beneath distant foreign snows with the lost visions of Toussaint Louverture. Then, only two years after welding together a nation, Dessalines himself fell beneath a hail of Haitian bullets at Pont-Rouge. The last act of this Passion of the Tropics was accomplished when his remains, scattered about the murder site, were gathered and buried one dark night by an old, half-crazed woman mumbling a distracted incantation.

Another father of Haiti, Henri Christophe, who has been called the "Peter the Great of the Sun", fanned even higher the flames of the legends whose glow had kept the island alive. After his coronation, he pierced one door in his palace of Sans-Souci for every day of the year, and built on a mountain peak the Citadelle Laferrière, the fortress which André Malraux so aptly described as "the Saturnian citadel, never attacked, never inhabited except by

the zombies of those who built it". One day in 1942, in a Port-au-Prince cinema, I first heard the Cuban novelist Alejo Carpentier reflect on these haunted ruins in a lecture which brought an incandescent glow to their desolate magnificence. Carpentier spoke in tones which echoed those of Pablo Neruda when he set eyes on the vertiginous site of Macchu Picchu in Peru. The Cuban master had experienced the revelation of America's bewitched reality, which would later enrich his novels, especially his masterpiece *A Kingdom of This World,* which is directly inspired by the crazy geometry and the dreams which King Christophe in his glory transformed into reality.

Christophe was followed by President Alexandre Petion, who was catapulted from a humdrum existence into a grandiose dream when the fraternal aid he granted to the fugitive Simon Bolivar in 1815 led directly to the battle of Ayacucho (1824), the culminating point in Latin America's struggle for independence from Spain. It is to Petion's credit that, by extending the hand of welcome to Bolivar, Haiti (often despised as a poor relation of the Hispano-American world) became the first country in the Western hemisphere to turn to its neighbours the visionary countenance of the solidarity of peoples.



A country which entered the history of the Americas proffering such fantastic gifts might have expected to see its promise blossom quickly in art and literature. That this did not come about is one of the paradoxes of our story. The stranglehold of colonialism had not been fully loosed from Haiti's social structure and colonialist attitudes returned in force to influence the lives and aesthetic canons of the indigenous intelligentsia. For many years this recrudescence of ideas that had been inculcated in servitude froze the sense of wonder that could have revitalized our culture. Our first creative artists in the nineteenth century were parodists of literary theories and concepts totally at odds with the reality of Haitian life and with the dreams that the popular consciousness had moulded into the myths, fables and stories of oral literature. Haiti's search for an artistic identity really began with the poetry of Oswald Durand and Masillon Coicou, and with the prose of Frédéric Marcelin, Justin Lhérisson, Fernand Hibbert and Antoine Innocent. These were the men who first began to tap the wellsprings of an original Haitian creativity.

But it was not until 1927, when Haiti was under a military occupation, that another generation gave this hitherto tentative search for identity a definite direction among the refreshing waves of wonder and realism. In 1928 the ethnologist Jean Price-Mars published his *Ainsi Parla L'Oncle,* a classic study of Afro-Haitian folklore which signalled the emergence of a new form of vindication of our idiosyncrasies and national values. Men like Normil Sylvain, Jacques Roumain, Emile Roumer, Carl Brouard, Léon Laleau and Philippe Thoby-Marcelin began to devise new ways of expressing in literary form what it feels like to be a Haitian and the difficulties Haitians encounter in their lives.

Other distinguished members of this group of pioneers included Jean-F. Brierre, F. Morisseau-Leroy, Roussan Camille and Clément Magloire Saint-Aude. Yet another blaze of imagination brought to the fore writers such as René Bélance, Paul Laraque, Edris Saint-Amand, Jacques Stéphen Aléxis, Marie Chauvet, Roger Dorsinville, Lucien Lemoine and others, who showed both in poetry and in fiction "the possibility of a dynamic integration of the marvellous into realism". The same ferment of lyricism is still at work in the astonishing compositions of writers such as Davertige, Anthony Phelps, Georges Castera junior, Serge Legagneur, Franck Etienne, Jean-Richard Laforest, Emile Ollivier, René Philoctète and others. Meanwhile, the members of the rising generation of creators publish their candid reflections in the columns of a magazine called *Le Petit Samedi Soir.*

And so in the past half century Haiti has abandoned the imitation and parody of imported aesthetic systems and ventured boldly along the path to truths and mysteries illuminated by its own inner flame and sustained by its own historic roots.

The two uncontested masters of this renaissance are Jacques Roumain and Jacques Stéphen Aléxis. In *Gouverneurs de la Rosée* (published in English as *Masters of the Dew*), *Compère Général Soleil* and other equally powerful works, they have woven a rich allegorical tapestry of the struggle for a better life in Haiti, evoking the tenderness and beauty of everyday life through an inspired mingling of the imaginary and the real. Aléxis has defined the significance of the Haitian quest for identity through literature: "What is the marvellous", he has written, "if not the imagery in which a people enwraps its experience and reflects its conception of the world and of life, its faith, hope, confidence in mankind and in a high form of justice..." In a stirring manifesto he has called on his country's poets, novelists, musicians and painters to use "the treasury of stories and legends, all forms of musical, choreographic and plastic symbolism, and all the forms of Haitian popular art, to help the nation to solve its problems and acomplish the tasks which lie before it".

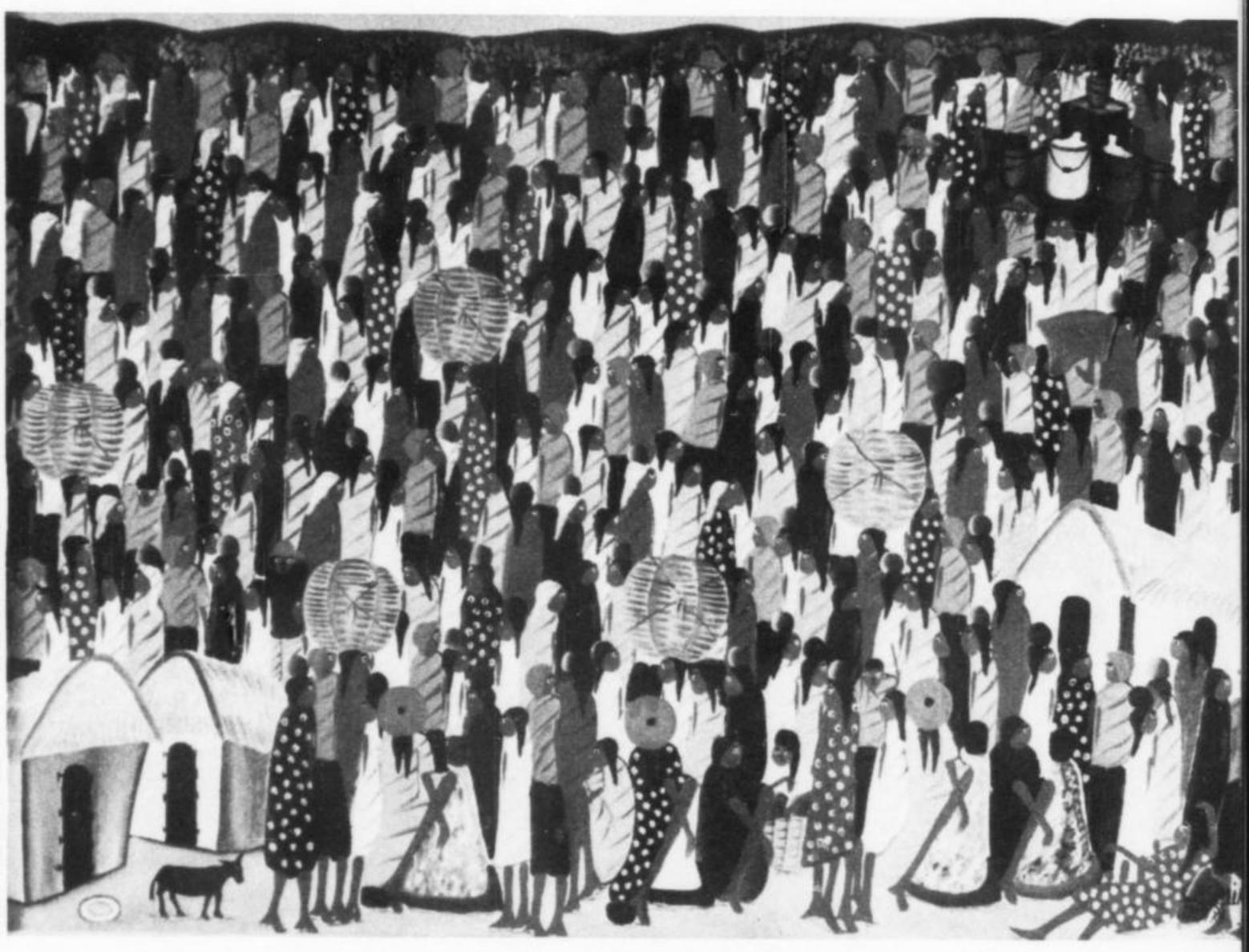
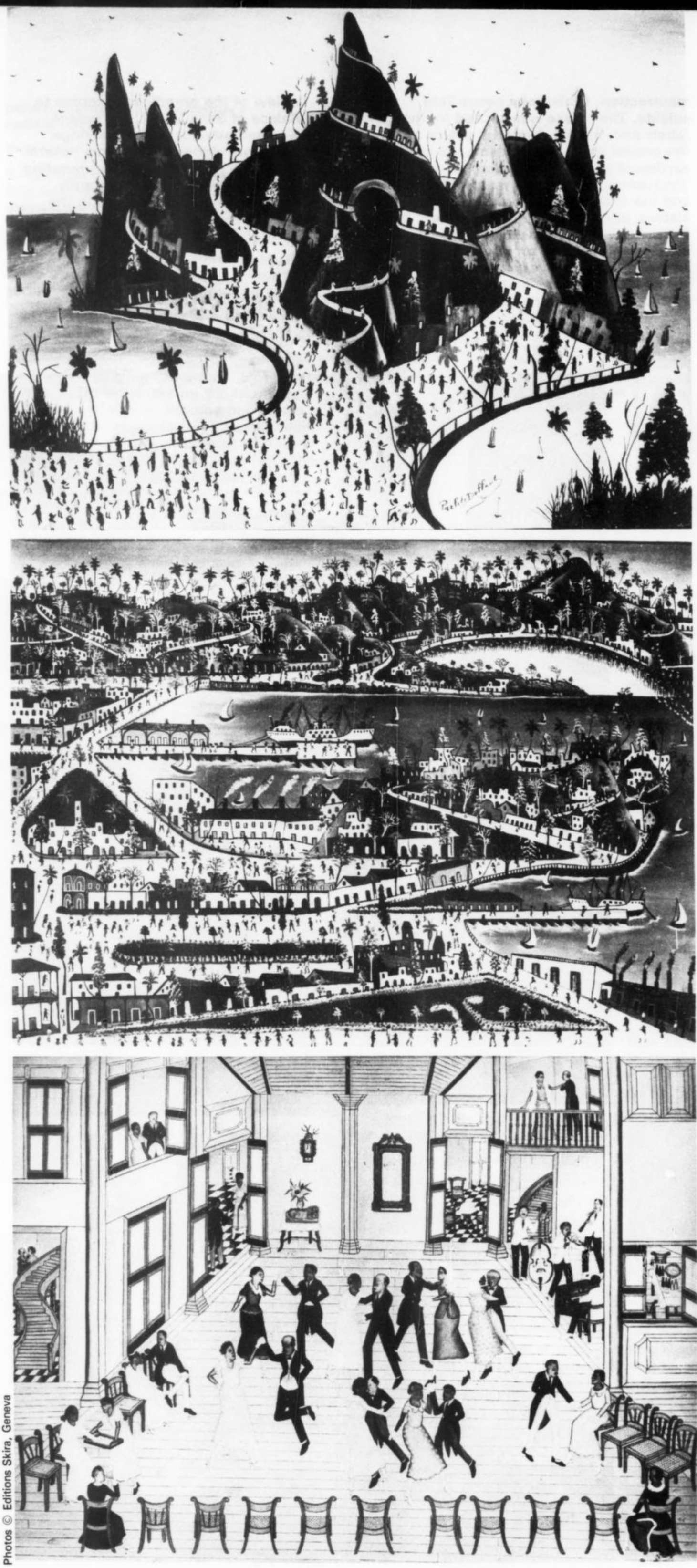


Photo Warren E. Leon Jr. © Editions Delroisse, Paris. Collection Georges Nader Gallery

***Open-air Market,* by Casimir Laurent, one of Haiti's best known painters.**

So far it is the painters of Haiti who have realized the aesthetic programme outlined by Roumain and Aléxis with the greatest rigour and panache. They have miraculously succeeded in expressing in paint the Haitian's extraordinary sense of rhythm and through a frenzy of shapes and colours have ushered the Haitian consciousness to the incandescent centre of its identity.

One day at the end of 1943, our English teacher at the Lycée Pétion, a North American of Dutch origin named DeWitt Peters, bade farewell to my class. He was giving up teaching in order to found an art centre at Port-au-Prince, a seemingly overambitious project which came to fruition on 14 May 1944 with the opening of the first exhibition of Haitian painting ever to be organized. At last the realism and enchantment of



Photos © Editions Skira, Geneva

Haiti had found their language and inspiration in the visual arts! Painters steeped in the workings of the popular imagination and versed in the vicissitudes of the "Haitian dream" seized on the humble tales that delight our children and began to transform them into expanses of radiant colours and forms. Through works that were an incantation to justice and showed a fine disregard for academic trends and rhetoric, the droplet of dew that had trembled for centuries from the leaf of suffering Haiti became an event in the history of world art.

Some of the leading figures in this movement, which is less "naive" than a superficial acquaintance with it may suggest, include: Hector Hyppolite, Philomé and Sénèque Obin, Rigaud Benoit, Castera Bazile, Wilson Bigaud, Enguerrand Gourgue, Louverture Poisson, Préfète Duffaut, Micius Stéphane, André Pierre, Philippe Auguste, Saint-Brice, Jasmin Joseph, Dieudonné Cédor, Antonio Joseph, Luckner Lazare, Luce Turnier, Max Pinchinat, J. Chéry, Bernard Wa, Davertige, Léontus, Roland Dorcély, Minium Cayemitte. But such a list is far from complete; the dazzling skills of many other hands have helped to beckon in Haiti's new dawn of creation.

It may be that the creative artists of our country, and especially our naive painters, possess gifts which enable them to span the animal, vegetable and mineral worlds as well as society's most secret dreams; it has been granted to them to express with grace and integrity everything in the entranced, entrancing Caribbean islands that enlightens and delights the eyes and heart and creates a world in which human relations can flourish forever in poetry and dignity.

■ **René Depestre**

Landscape **(top of page) and** ***Voodoo Vision*** **(centre) are part of Préfète Duffaut's** ***Imaginary Cities*** **series, inspired by his native town of Jacmel. Left,** ***Ball at Port-au-Prince,*** **by Rigaud Benoit, an artist noted for his meticulous attention to detail.**

Restoring King Christophe's domain

Following the defeat of the French at the battle of Vertières, Haiti proclaimed its independence on 1 January 1804, thus becoming the first independent black republic. One of the victorious rebel commanders, General Henry Christophe (1767-1820), began the construction of a vast citadel on the Pic de Laferrière, twenty-eight kilometres south-east of Cap Haitien. Seven years later, Henry Christophe proclaimed himself king and began construction of the Palace of Sans Souci. This imposing building, surrounded by magnificent gardens, housed the royal family and the principal administrative officers of the kingdom. In 1820, half paralysed by a stroke and faced with an insurrection, Christophe committed suicide. The palace was sacked by the rebels and, in 1842, both the palace and the citadel were heavily damaged in an earthquake. In 1977, the Haitian Government decided to restore the palace and the citadel and to create a national historic park. Unesco is contributing to the preservation of these important historic and cultural monuments by engaging experts to study the original lay-out of the buildings and to advise on their protection, preservation and restoration.

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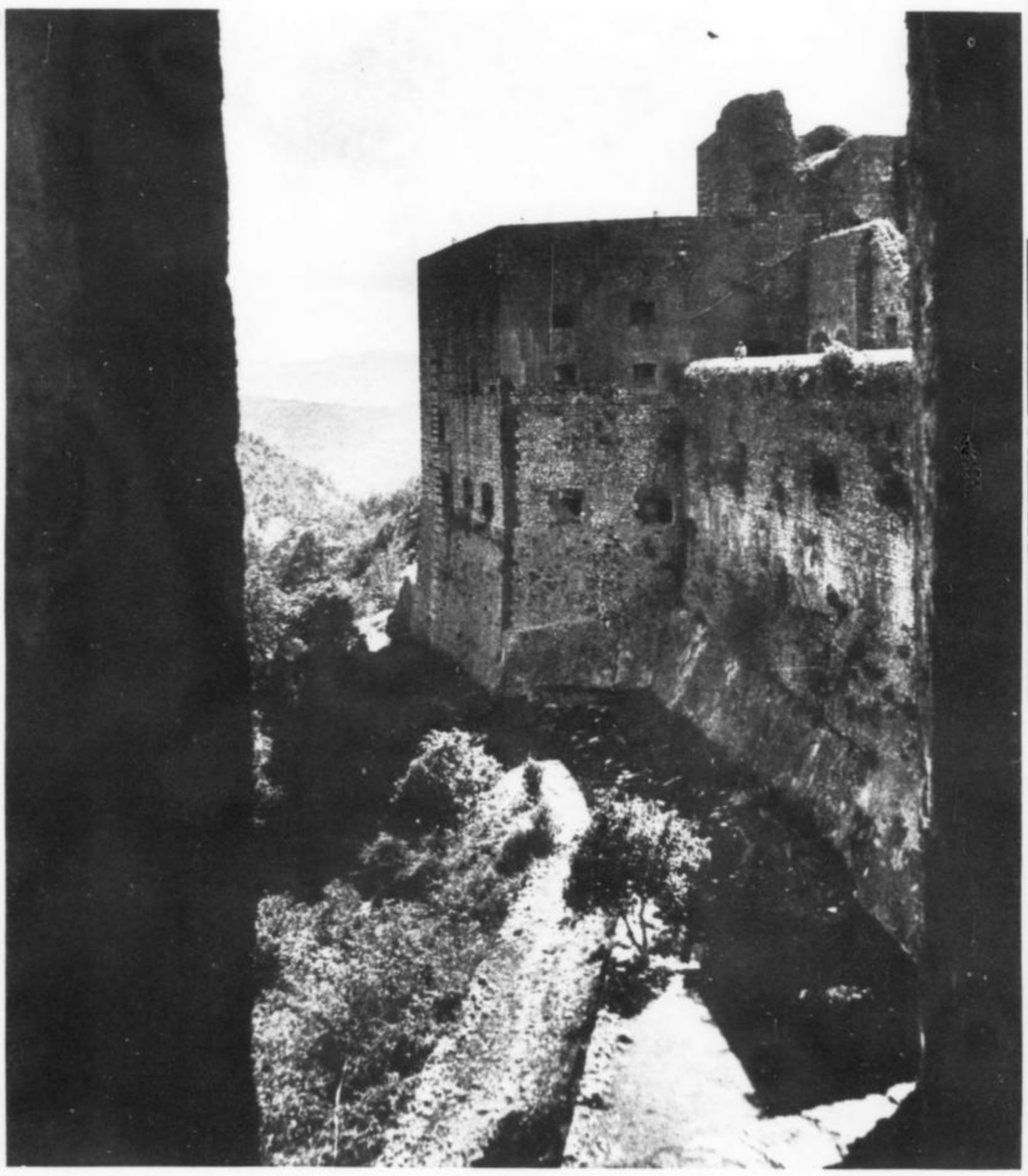

1 - A view of the grandiose entrance to the Palace of Sans Souci. The palace, gardens and administrative buildings occupy some eighteen acres in a natural amphitheatre formed by the surrounding mountains. A complex water supply system fed the many fountains in the grounds as well as providing abundant water for domestic purposes.

Photo Unesco

2 - The main building of the Palace of Sans Souci as it is today. This part of the

2

palace formed the royal family's residential quarters.

Photo de Morgoli © Parimage, Paris

3 - Built as a last refuge in case of invasion, the Citadel of Laferrière dominates the northern plain of Haiti. Armed with 365 cannon, the citadel was designed for a garrison of 2,000 men, but in an emergency could easily house double that number. Twenty thousand workmen are said to have been employed on its construction which took nine years to complete.

Photo Lord Oxmantown © Parimage, Paris

4 - Portrait of King Christophe by Richard Evans. Born in slavery on the island of Grenada, he rose to become one of the heroes of the struggle for independence. He proclaimed himself king of northern Haiti in 1811 and ruled as King Henry the First until 1 October 1820 when, rather than surrender to rebel forces, he shot himself with a silver bullet.

Photo © Service de conservation des sites et monuments historiques, Port-au-Prince

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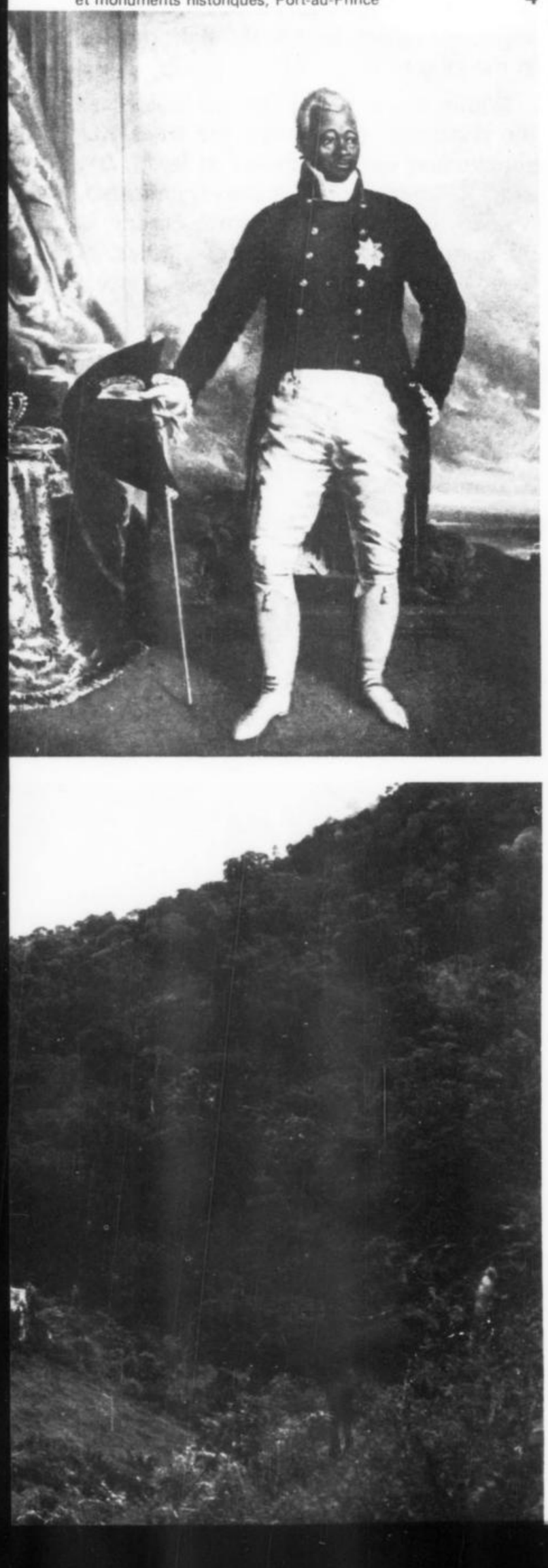


A world's-eye view of history

by Geoffrey Barraclough

WHEN I was asked, seven years ago, to plan and edit a new Atlas of World History (1), the challenge was too exciting to resist. The great events of our generation—the end of the colonial empires, the Chinese revolution, the emancipation of Asia and Africa, the changed position of Europe in the world—had completely altered our vision of the past.

Beginning in 1963 with the six-volume Unesco *History of Mankind,* a number of historians had attempted to describe the new dimensions. But could they be shown visually and graphically? Could we use maps in such a way as to convey the drama of human history to a generation which is at least as responsive to the impact of visual appeal as to the written word ? That was the challenge, and it was a formidable one.

If we were to succeed, two things were necessary. First, we had to take a completely new look at the course and content of history, think again about what was important and worth recording and what was not. Second, we had to translate these ideas into reality, and in the end everything depended upon effective presentation and imaginative use of the mapmaker's art.

Let me give just one example of the outcome of this marriage of new ideas with flexible and resourceful mapmaking. I announced, rather arbitrarily, at one stage that our map of "The Expansion of Islam" should be centred on Mecca, since Mecca is the heart of the Islamic world. When the finished product came to hand, no one could have been more astonished than I.

GEOFFREY BARRACLOUGH, *noted medieval historian, is a former Chichele Professor of Modern History and Fellow of All Souls College, Oxford. He is the author of several important historical works including:* An Introduction to Contemporary History, *1964,* Eastern and Western Europe in the Middle Ages, *1970,* The Crucible of Europe, *1976.*

(1) The Times Atlas of World History, *of which Professor Barraclough is the general editor, is published by Times Books Limited, London. Editions of the Atlas in German, Italian, French, Dutch and Japanese are to be published during 1979.*

My whole inherited perception of the expansion of Islam was changed. I saw immediately that its progress in the east was far more significant than its advance in the west, and that the famous battle of Poitiers (famous in west European tradition), when the westward thrust was halted by the Frankish ruler Charles Martel, was in Islamic eyes little more than a minor border incident.

Anyone who looks through the Atlas will find a score of other plates where things which seemed familiar suddenly take on a new dimension as a result of the map-maker's skills. What more can one ask of an atlas of world history? Our object was not to lay out an established body of knowledge so much as to stimulate the reader's imagination and make him or her think again about the meaning of mankind's progress through the ages.

So far as my own share in shaping the new Atlas was concerned, my primary task—which for long I thought despairingly was impossible—was to subsume the whole of human history in 127 large, double-spread plates. I had, to begin with, a better idea of what I did not want than of what I did. First of all, I knew that no historical atlas which makes sense in today's world could concentrate on Europe in the way that most conventional historical atlases do.

My first resolve, therefore, was to hold a balance between the continents—without bending over, in an excess of zeal, to minimize the European impact. Secondly, I knew that the maps must show the dynamism of history; they must not just be static pictures of particular situations at particular times. Thirdly, it was to be an atlas of world history, not just a compilation of national histories. And finally, it was to be an historical atlas—that is to say, it was to pay attention to what was important then (even if 5,000 or 10,000 years ago) and not merely to what is important now. That meant, for example, that we were determined to give fair weight to civilizations—for example, the great Ottoman civilization or Moghul India or the Byzantine empire—which no longer seem to be of decisive importance today.

On the other hand, we passed over many things that loom large in national histories. One example, for which we have been criticized, is that, though the atlas was first published in London, it nowhere specifically mentions the Battle of Hastings, which looms so large as a turning point in the history of England. Our reply would be that we are not dealing with English history, but with world history.

It was, of course, easier to decide what to exclude than what to include. Back in 1972, I spent some months studying earlier historical atlases. Then, at the beginning of 1973, I set out to draw up a positive plan. I began with no preconceived scheme of world history. It seemed to me important to emphasize that there were, from a surprisingly early date, connexions between different civilizations and different cultural groups (hence our map showing the "Silk Route" linking China with the eastern Mediterranean across central Asia). But we took great care not to suggest that there is a single thread or a single historical process uniting all mankind; indeed, no one who seriously considers the history of Australasia or of sub-Saharan Africa could subscribe to that view. The Atlas, or at least the thinking behind it, is pragmatic, not ideological, and certainly not schematic.

Nevertheless it is also true (as Marx long ago pointed out) that no attempt to take an overall view of world history can ever be "devoid of premises." Looking back in retrospect, I think that two main premises underlie the plan of the Atlas. The first is that the conventional view which treats the four hundred years between Vasco de Gama and Lenin as (in the words of the well known English historian, E.H. Carr) "the centre-piece of universal history, and everything else as peripheral to it", is "an unhappy distortion of perspective." Hence our endeavour to hold a balance between the seven different periods or ages into which we have divided the Atlas. The second is that a central theme of human history, common to the whole of mankind, is the struggle to exert control over nature and to extract a livelihood from a grudging environment. This struggle is fundamental because it gives rise to different political systems and intellectual responses.

It was important also in planning our project because it provided us with a criterion for deciding what is and what is not significant from a global perspective, and in particular because it shifted the emphasis from events on a national or local level, which affect only one people or ethnic group, to broad movements—for example, the Neolithic agricultural revolution—which involve whole civilizations or the whole of mankind.

This is why, instead of treating the complex details of the political history of early feudal Europe, we devoted instead a whole plate to its economic recovery between 950 and 1150, a recovery which laid the foundations for the great age of cathedrals and universities. This seemed to us the more important aspect, both in the short run and in the long run.

Within these broad general guidelines the principles upon which the Atlas was constructed were, in theory at least, very simple. The main one, as already indicated, was to avoid "Eurocentrism." Europe in the thirteenth and fourteenth centuries, as Kwame Nkrumah frequently insisted, was a

The spread of Islam

Beginning on the morrow of the death of the Prophet in 632, Islam expanded within a century from Arabia across the Pyrenees and to the outer confines of India. Its conquests east of Mecca outdistanced its conquests west of Mecca in size and importance. By 750, the first stage of expansion was all but complete, and the Abbasid Caliphate was established as the major civilization west of China.

Map taken from *The Times Atlas of World History,* 1978 © Times Books Limited, London

backwater compared with Mali and Songhai; and so we gave as much prominence to the university of Timbuktu as to the universities of Paris and Oxford. It is perhaps significant that six whole plates (or seven if the plate on ancient Egypt is included) out of 127 are devoted exclusively to Africa, apart, of course, from innumerable plates where north Africa appears as part of the Roman empire or of the Islamic world. It can safely be said that no other atlas of world history devotes so much attention to Africa before the coming of the Europeans; and that may be regarded as characteristic of our effort to take a truly global view of history.

Nevertheless we have avoided novelty for novelty's sake, and have not eschewed more conventional maps. People want them and need them. For example, we have included a map of the rise of the Frankish kingdom, a conventional subject in all European histories. But we have balanced it by a map of the Eurasian world in 814 which shows how relatively unimportant the Frankish empire was at that time by comparison with T'ang China, the Abbasid caliphate, and the East Roman empire of Byzantium.

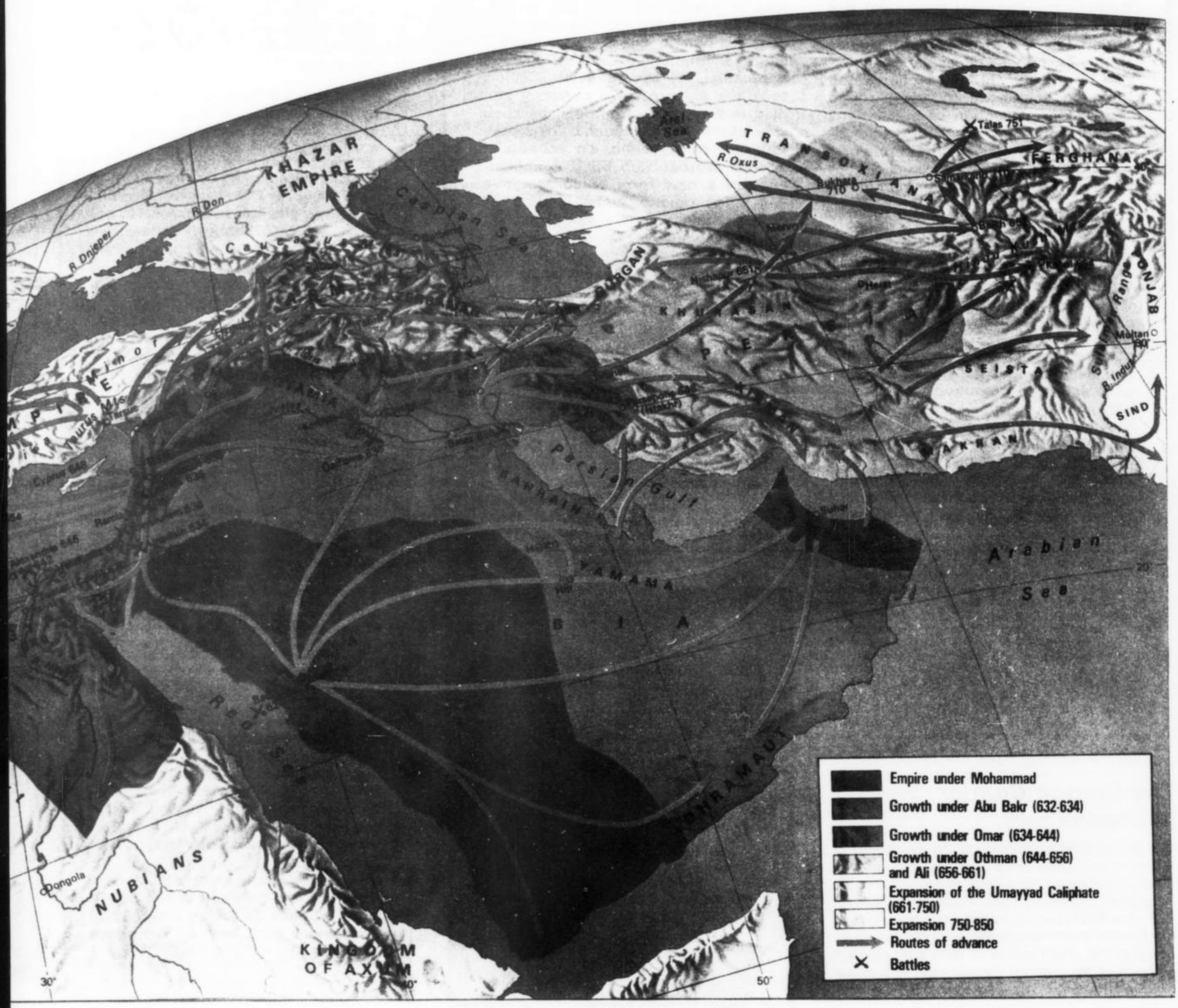
Every atlas has a map of the westward expansion of the United States between 1785 and 1890. But we have balanced it by a map which looks at the expansion of the white settlers through the eyes of the aboriginal Indian population, for whom expansion became contraction, prosperity became poverty, and liberty became confinement. We have included the usual map of European imperialism between 1890 and 1914; it was on all counts a major event in world history. But we have complemented it by a plate on "The Anti-Colonial Reaction" in Asia and Africa between 1881 and 1917, which I believe is unique. That is another way in which we have tried to put familiar events into a new perspective.

At the end of the account, am I satisfied with the Atlas as it stands? The answer is both "Yes" and "No". I know that it is not perfect. The task of compression—the almost impossible task of getting the whole of human history from the Ice Age to the uneasy, divided world of poor nations and rich nations in which we live, into the compass of 127 plates—probably precluded perfection.

Looking back after the event, I am aware that certain peoples—for example, the Welsh—have probably received less attention than they might rightly claim. The same, perhaps, may be true of Québecois, Kurds, Armenians, and doubtless others.

Nevertheless, we believe that the Atlas sets a new standard and we hope that it fulfils its object of doing justice, without prejudice or favour, to the achievements of all peoples, in all ages and in all quarters of the globe.

■ **Geoffrey Barraclough**



Roger Caillois

Writers and scholars throughout the world were saddened to learn that Roger Caillois had died in Paris on 21 December 1978. Not only in France, where his work and interests in sociology, surrealism, criticism and literature had taken him to the Académie Française, but in Japan and in Brazil (whose Academy had elected him to the seat previously occupied by André Malraux) and in Argentina, where he had many friends whose thought and work he made known in Europe, his loss was keenly felt in literary and intellectual circles.

Caillois' curiosity was yoked to a rich store of knowledge spanning a wide variety of intellectual disciplines. He was interested in dreams and games, poetry and festivities, masks, butterflies and stones. Semantics and demography, epistemology and political economy also captured his attention. Director of Unesco's Division of Cultural Development (1968-1971) and Editor for twenty-six years of the international review of humanistic studies *Diogenes,* he was particularly concerned to provide, through an illustrated book on human rights, and through the Unesco collection of translations of representative works of world literature, a picture of different world cultures, of human aspirations, and of the achievements of the human mind.

What made Roger Caillois unique was his struggle against dispersion. This led him to reject the exclusive, and in his view abusive, compartmentalization of pure scholarship which led ultimately to neglect of the point of reference, the touchstone of all sciences—mankind. This is where his creative imagination came in. To what had been a series of mutual monologues delivered from "watertight compartments" by specialists who stressed the irreducible originality of their fields, Caillois introduced an element, if not of unity, at least of confrontation. In place of the excessive specialization of such compartmentalized research, he went beyond the

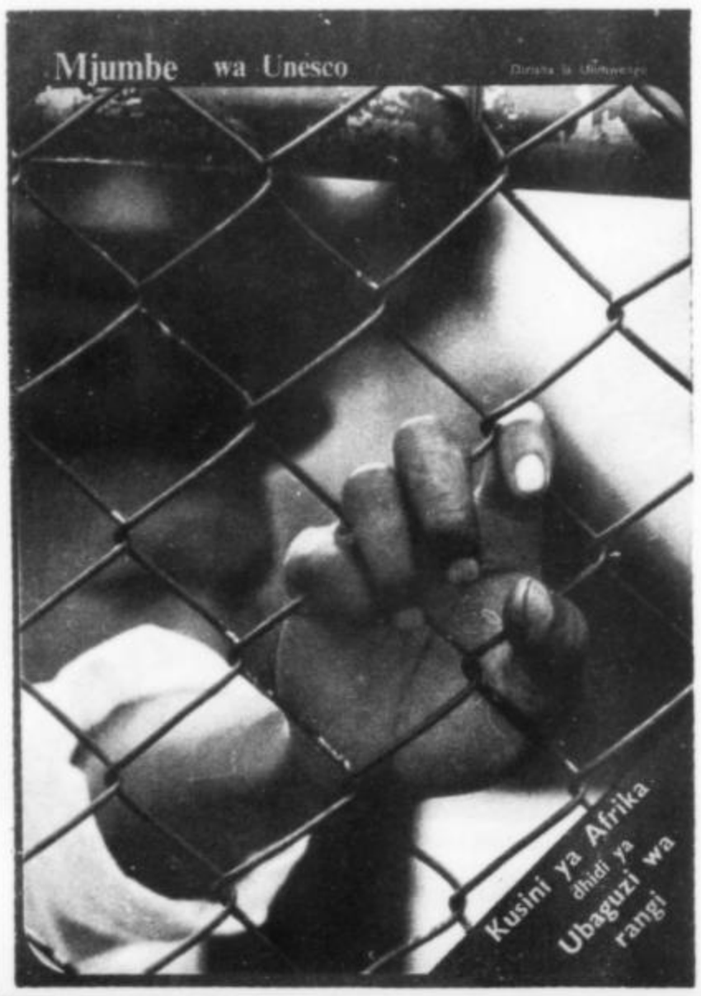
Photo © Dominique Roger, Paris

idea of interdisciplinarity and promoted what he called the *diagonal sciences:* this meant, not the analysis of a single phenomenon using the specific approaches of each science (Caillois took the example of a currency studied in turn, but separately, by such specialists as a chemist, a metal-founder, an historian, an economist and an aesthetician) but the appearance of a new form of co-operative and open-minded understanding at different levels. In his last published works, he went very far with this grandiose view of science and the universe, to the extent of establishing formal and hidden links between stones and dreams, inert and living matter, between free-ranging imagination and scientific rigour.

This boldness, this temerity which he himself sometimes described as "demented", was always controlled with implacable rigour.

The disappearance of Roger Caillois is a loss which the human sciences in our times can ill afford.

Jean d'Ormesson
of the Académie Française



The *Unesco Courier* in Swahili

We are pleased to announce the launching of *Mjumbe wa Unesco,* a new edition of the *Unesco Courier* in Swahili. Published by the Tanzanian National Commission for Unesco, P.O. Box 9121, Dar-es-Salaam, the first issue of the Swahili edition appeared in December 1978, bringing the total number of different language editions of the *Unesco Courier* now in publication up to twenty.

Bookshelf

RECENT UNESCO PERIODICALS

• **Violence** is the major theme of Unesco's quarterly **International Social Science Journal** (Vol. XXX, No. 4, 1978). Each issue 23 F; subscriptions 70 F for one year or 116 F for two years.

• **Latin America and the Caribbean: Identity and Pluralism** is the theme of Unesco's quarterly **Cultures** (Vol. V, No 3, 1978).
Subscription 75 F for one year or 125 F for two years.

• **Development and Education in Latin America** is the major theme of **Prospects,** Unesco's quarterly review of education (Vol. VIII, No. 3, 1978). Each issue 12 F; subscriptions 42 F for one year or 70 F for two years.

BOOKS RECEIVED

• **The Times Atlas of World History,** edited by Geoffrey Barraclough. Times Books, Ltd., London. 1978. £20 (See article page 35).

• **The Huichol Creation of the World,** by Juan Negrín. E.B. Crocker Art Gallery, Sacramento, California. 1975 (See article page 16).

• **Visual Literacy in Communication: Designing for Development,** by Anne C. Zimmer and Fred A. Zimmer. 144 pp., 1978. **Towards Scientific Literacy,** a core curriculum for adult learners and literacy teachers, by Frederick J. Thomas and Allan S. Kondo. 96 pp., 1978. Monographs in a series "Literacy in Development", edited by H.S. Bhola. Hulton Educational Publications Ltd., in co-operation with the International Institute for Adult Literacy Methods, Tehran.

• **Anti-personnel Weapons,** by Stockholm International Peace Research Institute (SIPRI). Published on behalf of SIPRI by Taylor and Francis Ltd., London and distributed by Almqvist and Wiksell International, Stockholm (for Sweden, Norway, Denmark and Finland) ; Crane, Russak and Co. Inc., New York (for U.S.A.); and Taylor and Francis (rest of the world). 1979 (£9).

• **Prologue to Education: An Enquiry into Ends and Means,** by John N. Wales. 1979 Routledge and Kegan Paul, London, Boston and Henley. (£4.75).

'UNESCO IN PRINT'

A selection of Unesco's recent English-language publications is being displayed at the National Book League, Albemarle Street, London, from 16 to 28 March 1979. The exhibition, Unesco in Print, is being organized jointly by Unesco Publishing Services, the National Book League, the U.K. National Commission for Unesco and Her Majesty's Stationery Office. It will be open to the public from Monday to Friday between 10 a.m. and 6 p.m. and on Saturdays between 10 a.m. and 1 p.m.

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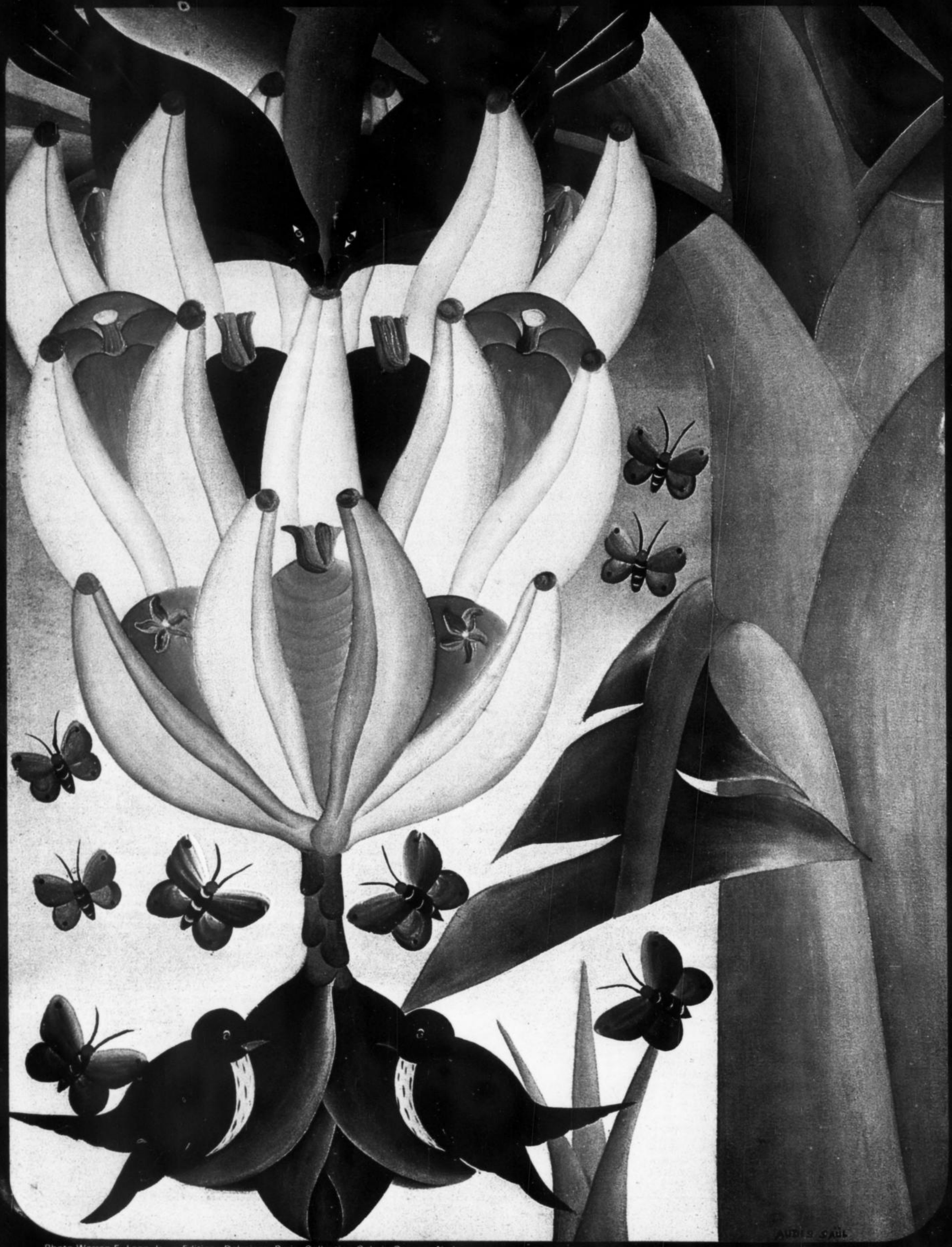
The visionary artists of Haiti

The extraordinary renaissance of Haitian art that blossomed in the 1940s, producing artists such as Wilson Bigaud and Jasmin Joseph (see colour page 22), continues in full flower with younger painters such as Audes Saul whose work "Bananas" is reproduced below. The sudden emergence of this stream of creative power reveals the very essence of the Haitian people, their origins, their education, their traditions and their legends.



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